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THESIS

THE OPERATION JOINT ENDEAVOR DEPLOYMENT: TRANSPORTATION LESSONS LEARNED AND IMPACT ON SUBSEQUENT OPERATIONS

by

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March 2001

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Through the 1990s, the United States military, specifically the Army, has decreased its forward presence around the world. Instead, we have become a "force projection" Army, relying on deployments to move our forces into a theater of operations. This increased reliance on the art of deploying has made the study of previous deployments critical. This study is also important since military strategists expect U.S. forces to be involved in an increasing number of regional contingency operations of the sort conducted in Bosnia from late 1995 until the present. The success of such large-scale operational missions hinges on the Army's ability to efficiently deploy its forces. Planners of future missions therefore would greatly benefit from the study of the deployment to Bosnia in support of Operation Joint Endeavor.

This thesis provides a thorough chronology of events surrounding the deployment of Army forces from Germany through Hungary and Croatia into Bosnia. The work further analyzes related transportation and logistical issues and problems in order to identify lessons learned from the mission.

Once the lessons learned are identified, the study relates how those lessons learned have influenced deployment doctrine and deployments to subsequent operations.

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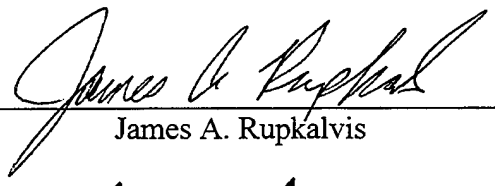
Author: 
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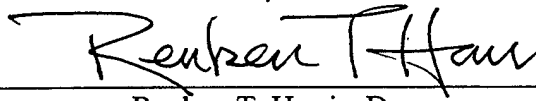
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LIST OF ACRONYMS

AAR	After Action Review
AB	Air Base
ACTORD	Activation Order
AD	Armored Division/Air Defense
A/DACG	Arrival/Departure Airfield Control Group
AFSOUTH	Allied Forces Southern Europe
AHA	Ammunition Holding Area
AIT	Automatic Identification Technology
ALO	Authorized Level of Organization
AMC	Air Mobility Command
AMS	Automated Manifest System
AO	Area of Operations
APOD	Aerial Port Of Debarkation
APOE	Aerial Port Of Embarkation
ARCOM	Army Reserve Command
ARRC	Allied Rapid Reaction Corps
ASG	Area Support Group
ATMCT	Air Terminal Movement Control Teams
AVLB	Armored Vehicle Launched Bridge
BBT	Blocking, Bracing and Tiedown
BCT	Brigade Combat Team

BFV	Bradley Fighting Vehicle
BG	Brigadier General
B-H	Bosnia and Herzegovina
BMCT	Branch Movement Control Team
BRSC	Brown and Root Services Company
BSB	Base Support Battalion
CALL	Center for Army Lessons Learned
CEGE	Combat Equipment Group - Europe
CIF	Central Issue Facility
CINCSOUTH	Commander in Chief Allied Forces Southern Europe
CINCUSJFCOM	Commander in Chief United States Joint Forces Command
CMCC	Corps Movement Control Center
CMMC	Corps Material Management Center
COMARRC	Commander Allied Rapid Reaction Corps
COMIFOR	Commander Implementation Force
CONUS	Continental United States
COSCOM	Corps Support Command
CPX	Command Post Exercise
CRAF	Civil Reserve Air Fleet
CSC	Convoy Support Centers
CSG	Corps Support Group
DB	Deutsche Bundesbahn (German Federal Railway)

DEPEX	Deployment Exercise
DEPLOYEX	Deployment Exercise
DISCOM	Division Support Command
DLA	Defense Logistics Agency
DOD	Department of Defense
DPA	Dayton Peace Agreement
DPC	Deployment Processing Center
DPSAG	Deployment Process Special Action Group
DSN	Defense Switched Network
DTRACS	Defense Transportation Tracking System
DTTS	Defense Transportation Tracking System
ESCM	Equipment Support Contract Maintenance
EU	European Union
EXORD	Execution Order
FA	Field Artillery
FCX	Fire Coordination Exercise
FFA	Freight Forwarding Area
FM	Field Manual
FRY	Former Republic of Yugoslavia
FSB	Forward Support Battalion
FSTE	Foreign Service Tour Extension
FYROM	Former Yugoslav Republic of Macedonia
GAO	General Accounting Office

GDP	General Defense Positions
GFAP	General Framework Agreement for Peace
HAZMAT	Hazardous Material
HET	Heavy Equipment Transporter
HN	Host Nation
IFOR	Implementation Force
ISB	Intermediate Staging Base
ITV	Intransit Visibility
JCS	Joint Chiefs of Staff
JFRG II	Joint Force Requirements Generator II
JOPES	Joint Operation Planning and Execution System
JROC	Joint Requirements Oversight Committee
JRSOI	Joint Reception, Staging, Onward Movement and Integration
JTTP	Joint Tactics, Techniques and Procedures
LIA	Logistics Integration Agency
LOADEX	Loading Exercise
LOC	Lines of Communication
LOGCAP	Logistics Civilian Augmentation Program
LOI	Letter of Instruction
LSE	Logistics Support Element
LTG	Lieutenant General
MASH	Mobile Army Surgical Hospital

MCT	Movement Control Teams
MG	Major General
MHE	Material Handling Equipment
MI	Military Intelligence
MND(N)	Multinational Division (North)
MP	Military Police
MRE	Meal, Ready to Eat
MRT	Movement Regulating Teams
MSB	Main Support Battalion
MSE	Mobile Subscriber Equipment
MSR	Main Supply Route
MTOE	Modified Table of Organization and Equipment
NATO	North Atlantic Treaty Organization
NSE	National Support Element
OCIE	Organizational Clothing and Individual Equipment
OJE	Operation Joint Endeavor
OPLAN	Operations Plan
OPORD	Operations Order
OPTEMPO	Operations Tempo
PERSCOM	Personnel Command
PLS	Palletized Load System
POD	Port of Debarkation
POE	Port of Embarkation

POL	Petroleum, Oil and Lubricants
POL-MIL	Political-Military
POV	Privately Owned Vehicle
PSRC	Presidential Selective Reserve Callup
QRO	Quick Response Option
RC	Reserve Component
RED HORSE	Rapid Engineer Deployable, Heavy Operational Repair Squadron, Engineer
RF	Radio Frequency
ROB	Rhine Ordnance Barracks
ROE	Rules of Engagement
RSB	Redeployment Staging Base
RSOI	Reception, Staging, Onward Movement and Integration
RTCH	Rough Terrain Container Handler
SA	Staging Area
SACEUR	Supreme Allied Commander Europe
SETAF	Southern European Task Force
SFOR	Stabilization Force
SHAPE	Supreme Headquarters Allied Powers Europe
SIMEX	Simulation Exercise
SOFA	Status of Forces Agreement
SOP	Standard Operating Procedure
SPOD	Sea Port of Debarkation

SRP	Soldier Readiness Processing
STACCS	Standard Theater Army Command and Control System
STANAG	Standardization Agreement (NATO)
STX	Situational Training Exercise
TAA	Tactical Assembly Area
TAACOM	Theater Army Area Command
TAMMC	Theater Army Material Management Center
TAV	Total Asset Visibility
TC-ACCIS	Transportation Coordinator's - Automated Command and Control Information System
TC-AIMS II	Transportation Coordinator's Automated Information for Movements System II
TFAS	Task Force Able Sentry
TFE	Task Force Eagle
TMCA	Theater Movement Control Agency
TOA	Transfer of Authority
TOC	Tactical Operations Center
TOE	Table of Organization and Equipment
TPFDD	Time Phased Force Deployment Data
TRANSCOM	Transportation Command
TTP	Trailer Transfer Point
ULN	Unit Line Number
UMB	USAREUR Movement Board

UMO	Unit Movement Officer
UN	United Nations
UNCRO	United Nations Confidence Restoration Organization
UNHCR	United Nations High Commissioner for Refugees
UNPROFOR	United Nations Protection Force
UNSCR	United Nations Security Council Resolution
UR	USAREUR Regulation
USAFE	United States Air Force Europe
USAREUR	United States Army, Europe
USEUCOM	United States European Command
USTRANSCOM	United States Transportation Command
ZOS	Zone of Separation

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I. INTRODUCTION

The following is a case study of the United States Army, Europe (USAREUR) deployment and force sustainment operations that occurred in support of the North Atlantic Treaty Organization (NATO) intervention in Bosnia. The mission that the U.S. Army participated in was termed Operation Joint Endeavor (OJE) and military forces deployed from Germany to locations in Hungary, Croatia, and Bosnia between December 1995 and February 1996. The purpose of this thesis is to thoroughly analyze deployment plans, decisions and actions of participating units and commanders. A comprehensive chronology of significant events relating to the deployment is provided. Attention focuses on the development and resolution of training, transportation, movement control and material handling problems from the perspective of the deployed USAREUR units. Such analysis is intended to identify lessons learned and produce recommendations useful in conducting similar future deployments.

This chapter provides a brief history of the Bosnia operation and establishes the significance of studying it from a transporter's perspective. It further discusses the scope, method and intended application of the study.

A. BACKGROUND: THE BOSNIA POLITICAL AND MILITARY CONTEXT

In order to properly evaluate the deployment to Bosnia in support of Operation Joint Endeavor, it is important to first understand the political and military context in which it occurred. Basic knowledge of the history surrounding first United Nations (UN) and later NATO and U.S. involvement in Bosnia is therefore required. Such historical

background demonstrates how careful analysis of the deployment to Bosnia is particularly significant.

The crisis that compelled first the United Nations and later NATO and the United States to intervene in the Balkans might well have been predicted as early as 1918 when Yugoslavia was formed. It was created from a patchwork of Balkan states and territories that included Serbia, Montenegro, Bosnia-Herzegovina (B-H), Croatia-Slavonia and Dalmatia, all of which were previously administered by other countries. This loose association of states was established originally as a monarchy, but was later shifted to a dictatorship. With the combination of so many different states and territories, ethnic and religious conflict were rampant in Yugoslavia until World War II. During World War II, Josip Broz Tito and his partisans fought against the Nazis and supported the views of the Soviet Union. After the war, Tito won election in Yugoslavia as Prime Minister and adopted a Stalinist approach to ruling the country. Tito ruled Yugoslavia with an iron fist and eliminated any opposition to his leadership. This authoritarian rule also ensured that any ethnic or religious problems that erupted in the many areas of Yugoslavia were squashed immediately. Therefore, the various ethnic groups lived together and tolerated each other from fear of Tito's wrath.

However, this would all change in 1980 after Tito's death. A rotational presidency was established in an attempt to divert a clash between Yugoslavia's multiple nationalities and regions (Yugoslavia, 2000). However, it was only a matter of time before the various ethnic groups began to tout their majority and lay claims to the leadership of the country. The rotational presidency managed to remain effective until 1989 when a democratic revolution began to sweep through Eastern Europe. In 1989, the

Berlin Wall came down and the Soviet Union began to loosen its hold on Eastern Europe. East and West Germany reunified in 1990 and the Warsaw Pact began to disintegrate, allowing the nations of Eastern Europe to throw off the Russian yoke. By late 1990, the Balkan nations were free once again, but this freedom would come at a price. All the ethnic rivalries that had been submerged in Yugoslavia now started bubbling to the surface. These troubles would lead to civil wars and ethnic conflicts that would ultimately lead to UN and NATO involvement.

When Communism and the Soviet Union collapsed, the Yugoslav federation of six republics that was formed in 1918 began to collapse also. As Figure 1 shows, Yugoslavia would eventually split into six republics and two autonomous provinces.

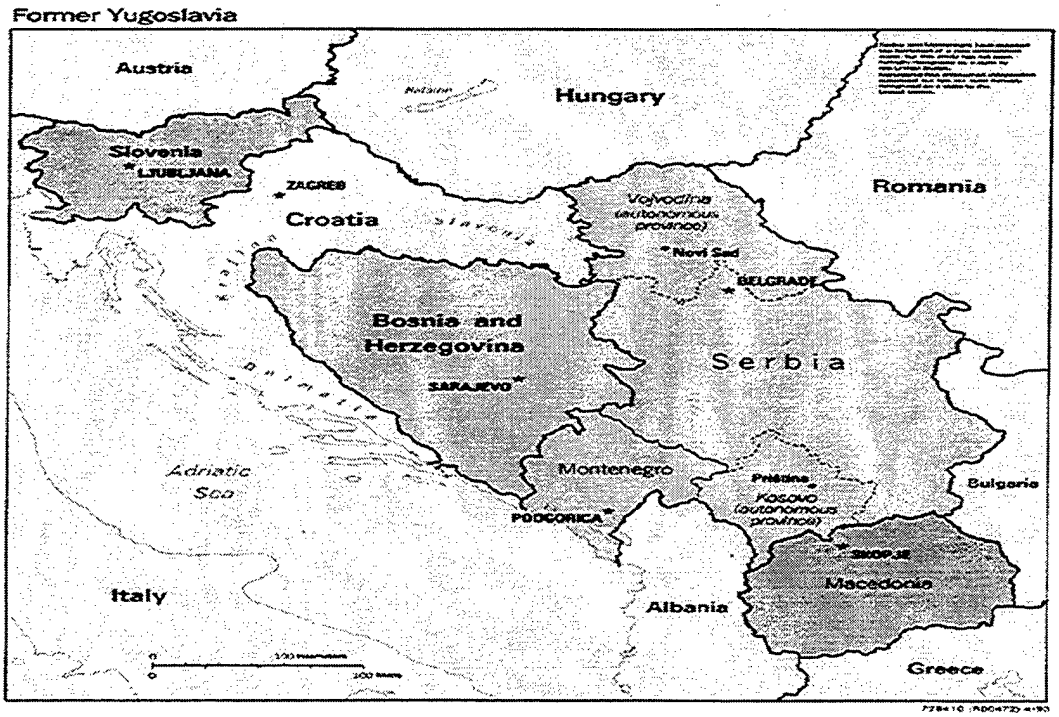

Figure 1. Map of the Division of the Former Yugoslavia [From The Perry-Castañeda Library Map Collection]

Free elections were held in many republics and independence-minded governments were elected. In June 1991, Croatia and Slovenia declared their independence from Yugoslavia. But these declarations caused border disputes between Serbia and both Slovenia and Croatia. Belgrade, the capital of Serbia, proclaimed that it would seek to change republican borders in an attempt to allow all Serbs to live in one state. Since both Slovenia and Croatia had small Serbian minorities, Belgrade would order Yugoslav Army troops, which were predominantly ethnic Serbs, to invade Croatia in what was the beginning of fighting in the Balkans.

Between June and December 1991, Yugoslav Army forces, aided by Bosnian Serb forces, would capture almost one third of Croatia's territory and would also begin their campaign of "ethnic cleansing," committing atrocities unseen in Europe since World War II. During that time, the European Union (EU) would broker at least four different cease-fire agreements, none of which held. As a result of this, the United Nations became involved for the first time by passing UN Security Council Resolution (UNSCR) 713 on 25 September 1991, which imposed a general and complete arms embargo on all deliveries of weapons and military equipment to former Republic of Yugoslavia (FRY) countries. The UN would be continuously involved over the next four years to attempt to bring a peaceful resolution to the fighting and unrest in the Balkans. Table 1 shows the many United Nations Security Resolutions that were passed relating to the Balkans.

Date of Resolution	UNSCR Number	Purpose
25 September 1991	713	Imposes general/complete arms embargo on weapons and military equipment to former Republic of Yugoslavia countries.
15 December 1991	724	Notes conditions do not yet exist in Yugoslavia for the establishment of peacekeeping operations.

8 January 1992	727	Endorses UN Secretary-General's intention to send 50 military liaison officers to monitor cease-fire.
21 February 1992	743	Authorizes the establishment of a UN Protection Force (UNPROFOR) as an interim arrangement to create the conditions of peace and security required for the negotiation of an overall settlement of the Yugoslav crisis.
7 April 1992	749	Authorizes the deployment of the UNPROFOR to Croatia and Bosnia-Herzegovina.
30 May 1992	757	Imposes very stringent mandatory economic sanctions on Yugoslavia (Serbia) for supporting the Serb rebels in B-H.
29 June 1992	761	Authorizes humanitarian assistance (Operation Provide Promise) for B-H under the auspices of the United Nations High Commissioner for Refugees (UNHCR).
13 August 1992	771	Condemns the practice of ethnic cleansing.
9 October 1992	781	Establishes a ban on military flights in the airspace of B-H.
11 December 1992	795	Authorizes the expansion of UNPROFOR into the former Yugoslav Republic of Macedonia (FYROM) to monitor its borders with Albania and the FRY.
31 March 1993	816	Authorizes member states to take all necessary measures to enforce the no-fly zone over B-H.
6 May 1993	824	Establishes six "safe areas" in B-H (Sarajevo, Tuzla, Zepa, Gorazde, Bihac, and Srebrenica) and places them under UN protection.
4 June 1993	836	Authorizes the UNPROFOR to use force to protect the six UN-designated "safe areas".
31 March 1995	981	Establishes the UN Confidence Restoration Organization (UNCRO) in Croatia to replace the UNPROFOR there.
15 December 1995	1031	Requires implementation of the Peace Agreement for Bosnia and Herzegovina and transfer of authority from the UN Protection Force to the multinational Implementation Force (IFOR).

Table 1. United Nations Security Council Resolutions Relating to Yugoslavia.

In September 1991, Macedonia declared its independence from Yugoslavia and Bosnia-Herzegovina follows in March 1992. The independence of Bosnia again causes the Serbian government to commit troops to ensure that all Serbians can live in one state. Although ethnic Serbians make up only about 31% of B-H, Serbian and Bosnian Serb Army forces seized upwards of 70% of the country (Bosnia and Herzegovina, 2000). Upon seizure of this land, the military employed the same "ethnic cleansing" tactics as they did in Croatia, a systematic elimination, either by forcible expulsion or murder, of any non-Serb in that area. Since the majority of the people affected by this "ethnic cleansing" were either Croat, 17% of the population, or Muslim, 44% of the population, these two groups formed a loose alliance and began to retaliate against Serbs living in Muslim or Croat controlled areas. Although this retaliation was neither on the same scale or as severe as the Serbian's "ethnic cleansing" campaign, it nonetheless forced Serbs to leave their homes and contributed to the refugee problems in that country (Jahn, 1995).

Because of the fighting in both Croatia and Bosnia, the UN Secretary General Boutros Boutros Ghali decided to send military liaisons to Bosnia in January 1992. The 50 liaisons were supposed to monitor a cease-fire agreement that had been orchestrated by UN representative Cyrus Vance. While the cease-fire was in place, the UN received a request from the Yugoslavian government to establish some type of organization to "create conditions of peace and security required for the negotiation of an overall settlement of the Yugoslav crisis" (UNSCR 743, 1992). The organization created in response to the Yugoslavian request was called the United Nations Protection Force (UNPROFOR). UNPROFOR would ultimately operate for almost three and a half years

and prove to be relatively ineffective at accomplishing its mission of settling the crisis in Yugoslavia.

The cease-fire agreed to in January lasted only three months and fighting resumed after B-H declared its independence from Yugoslavia in early April 1992. During April and May 1992, Serb and Bosnian Serb forces each launched attacks throughout Bosnia, the most significant being the siege of Sarajevo. The siege on Sarajevo caused the United Nations to finally authorize full deployment of the UNPROFOR into locations in Croatia, Bosnia-Herzegovina, Serbia, Montenegro, and the Former Yugoslav Republic of Macedonia (FYROM). In June 1992, another UNSCR authorized humanitarian assistance to B-H under the control of the United Nations High Commissioner on Refugees (UNHCR). This humanitarian assistance operation would be the United States' first direct involvement in the situation in Bosnia by flying relief supplies into Bosnia, particularly the city of Sarajevo. The mission would be called Operation Provide Promise and would bring the first United States Army, Europe units into the fold. The 212th Mobile Army Surgical Hospital (MASH) deployed to Zagreb, Croatia, in November 1992 to provide medical support for Operation Provide Promise and the UNPROFOR (Kirkpatrick, 2001). Also in support of Operation Provide Promise, the UN established a ban on military flights in B-H airspace in order to protect relief flights in that area. This ban largely was ignored by the Serbian controlled military and eventually led to NATO initiating Operation Deny Flight to enforce the no-fly zone.

In December 1992, the UNPROFOR experienced its first mission creep, when its mandate was expanded to include monitoring the Macedonian borders with Albania and Serbia (UNSCR 795, 1992). The UN deployed its first troops, a Nordic battalion, to

Macedonia in February 1993. Later in the year, the first battalion task force of USAREUR soldiers would deploy to Macedonia to support the UNPROFOR there. This task force was called Task Force Able Sentry (TFAS) and would maintain a presence in the area until just prior to the USAREUR deployment to Kosovo in 1999. In March 1993, the loose alliance between Bosnian Croats and Muslims collapsed and fighting broke out for the first time between these groups. Because of this new fighting, the refugee problem in the Croat and Muslim controlled areas of Bosnia exploded. In order to curb the refugee problem, the United Nations established six "safe areas" inside Bosnia, cities where refugees could go to avoid persecution. The cities designated as "safe areas" were Sarajevo, Tuzla, Zepa, Gorazde, Bihac, and Srebrenica (UNSCR 824, 1993). In May 1993, UNPROFOR's mission expanded once again, this time to monitoring the "safe areas" and using force, if necessary, to protect them.

Because of continuous fighting in Bosnia-Herzegovina, NATO offered its assistance to the UN in order to protect UNPROFOR. The assistance was mainly in the form of air strikes against Serbian targets around Sarajevo. On 5 February 1994, a Bosnian Serb shell hit a Sarajevo market, killing 68 civilians (Jahn, 1995). This brought the first threats of NATO air strikes directly to the Serbs. Two months later, when Bosnia Serbs began shelling the "safe area" of Gorazde, NATO launched air strikes against Serbian targets out the city. Then in August 1994, NATO began a limited bombing campaign against Bosnia Serb targets that were threatening the security of UNPROFOR.

In early 1995, former President Jimmy Carter, after intensive shuttle diplomacy, organized a four-month cease-fire, which did not hold. In March 1995, fighting again

broke out in northeastern B-H. In May, fighting resumed in Croatia, where Croatian Army troops launched an offensive to regain territory lost to the Bosnian Serbs in 1991. This increased tensions on the border between Bosnia and Croatia and Bosnia Serbs retaliated. The situation in B-H was now beginning to steadily escalate. Because of continuing air strikes, the Bosnian Serbs intensified their attacks on five of the UN "safe areas." In addition, Bosnian Serb forces took more than 350 UN peacekeepers hostage and used some of these soldiers as human shields to protect ammunition dumps from NATO bombing. Throughout the months of May and June 1993, Bosnian Serb leaders refused to release UN prisoners without a guarantee that the NATO bombings would cease. Finally, President Bill Clinton offered American ground forces to extract the UNPROFOR, if necessary. This prompted the Bosnian Serbs to release all but 26 UN peacekeepers. Fighting continued to escalate in July and August 1995, Croatian forces regained substantial lost territory, the "safe area" of Srebrenica was overrun and another Bosnian Serb shell hit a Sarajevo market, killing 37. With this bombing, NATO initiated Operation Deliberate Force, which included air strikes against Bosnian Serb military targets. Realizing that they could not survive against NATO air strikes, the Bosnia Serbs agreed to move their heavy weapons back from Sarajevo and come to the negotiating table. In early October, all sides agreed to meet to discuss a peace plan developed by the United States. On 31 October 1995, representatives from Serbia, Croatia and B-H met outside of Wright-Patterson Air Force Base in Dayton, Ohio. After almost a month of negotiations, an agreement was reached and on 21 November 1995, the presidents of Croatia, Serbia and Bosnia-Herzegovina initialed the Dayton Peace Agreement (DPA). This agreement would start the ball rolling as first NATO and then President Clinton

authorized the deployment of forces in support of the Implementation Force (IFOR) necessary to implement the Dayton Peace Agreement. The final piece of the puzzle necessary to authorize the full deployment of NATO and USAREUR troops was completed on 14 December 1995 when the leaders formally signed the agreement in Paris, France. Operation Joint Endeavor had begun.

B. SIGNIFICANCE OF RESEARCH

A thorough study of deployment operations during Operation Joint Endeavor is important because occasions to conduct similar operations under similar circumstances are likely to be more frequent. With the demise of the Soviet Union and subsequent end of the cold war, a consensus has emerged among military strategists: (1) that U.S. forces should be prepared for "low-intensity engagements" and "operations other than war" and (2) that operations in the world's underdeveloped regions will grow in frequency and importance. These predictions are prominently reflected in the President's National Security Strategy and the National Military Strategy of the United States produced by the Joint Chiefs of Staff. The desperate conditions in Bosnia appear to support the predictions. It is an archetypical case that strategists envision in the post-Cold war era: a Third World political crisis requiring multinational intervention to suppress hostilities and provide humanitarian assistance. Operation Joint Endeavor is therefore a convenient model, the analysis of which may be applied recurrently in similar operations.

The Operation Joint Endeavor deployment should be especially well scrutinized. The demands on U.S. armed forces created by the new global political environment imply greater reliance on deployments to project and sustain U.S. power abroad. Diminished U.S. presence overseas intensifies this reliance. Operation Joint Endeavor is

a case in point, foreshadowing an expanded role for U.S. deployments. Strategic planners, therefore, should have some insight into the operation from a transportation perspective.

This thesis serves to fill a gap in the analysis of the Operation Joint Endeavor deployment. Literature concerning the diplomatic and tactical dimensions of the mission in Bosnia is extensive. Unfortunately, however, considerably less attention has been paid to the transportation and logistical aspects of an expedition largely dependent on effective deployment. Although several units involved in the mission have published individual After Action Reviews (AAR), there is no comprehensive AAR specifically dealing with the deployment. Given the importance of the deployment during this operation and future U.S. military strategy, a history of this mission from a transportation and logistics perspective is required.

C. RESEARCH SCOPE AND METHODOLOGY

This case study is confined primarily to United States Army, Europe operations during the Operation Joint Endeavor deployment from December 1995 to February 1996. However, some attention is also paid to the movement of sustainment supplies immediately following the deployment period. Particular emphasis is placed on the decisions and activities of local commanders. The activities of other units are discussed as they relate to deployment or sustainment operations.

The thesis details the events in the deployment cycle including actions taken in Germany, the Intermediate Staging Base (ISB) in Hungary and the Tactical Assembly Area (TAA) in Croatia. It does this in order to appraise the decisions of local Army commanders as well as USAREUR plans and policy. This includes the following:

1. The identification of key players within USAREUR and their respective roles in planning and managing the deployment (Chapter II);
2. A description of relationships between USAREUR and units with stakes in the deployment, particularly other logistics commands (Chapter II);
3. A complete chronology of significant events impacting deployment operations during Operation Joint Endeavor (Chapter II);
4. An analysis of important issues affecting the deployment and sustainment of USAREUR soldiers including problems with planning, training, asset availability, movement control and logistical support (Chapter III);
5. An assessment of the effectiveness of deployment and sustainment operations and how well logistical problems were solved (Chapter III);
6. The identification of lessons learned about the conduct of deployment and sustainment operations (Chapter IV);
7. A set of recommendations applicable to operations similar to the one conducted in support of Operation Joint Endeavor (Chapter IV);
8. A discussion of how these lessons learned have influenced USAREUR and U.S. Army deployment doctrine and subsequent deployments (Chapter IV).

Based on the experiences of local commanders, the thesis draws conclusions about broader transportation management issues.

Research data about the deployment to Bosnia was gathered from the following sources:

1. Published studies and accounts including documents from the General Accounting Office (GAO), the Army War College, the Center for Army Lessons Learned (CALL) and the V Corps Historian.
2. Internet sources including the United States Army, Europe Lessons Learned Website.
3. Current Army deployment doctrine as well as USAREUR deployment policies and procedures.
4. Personal experience and interviews with Army officers who participated in the deployment.

Thesis conclusions represent some of the opinions advanced by these sources.

D. RESEARCH APPLICATION

U.S. Army transportation and deployment planners are the intended beneficiaries of this study. These planners may be able to apply the lessons learned and recommendations from this thesis in order to improve future deployment operations similar to Operation Joint Endeavor. By recording the successes and failures of the U.S. Army in Bosnia, the nation may be able to more effectively project its influence in response to an environment of increasing global uncertainty.

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II. CHRONOLOGY OF THE OPERATION JOINT ENDEAVOR DEPLOYMENT

A proper understanding of the deployment in support of Operation Joint Endeavor requires knowledge of the pertinent events surrounding the operation. This chapter therefore provides a thorough chronology of the deployment beginning with the earliest plans for a possible intervention into Bosnia and ending with the completion of the deployment of the 1st Armored Division (1AD). The chapter also briefly addresses key events occurring during the period of sustainment operations immediately following the completion of the deployment, as well as planning for the redeployment of 1AD. Key decision makers and the roles of their respective commands are introduced in the course of the account. The chronology demonstrates the uniqueness of the operation and thus lays the groundwork for thoughtful discussion of the lessons learned from it.

A. PLANS AND PREPARATIONS

> Planning was the single most challenging aspect of OJE and brought home the basic truth that effective military planning on a tight schedule for a complex operation in a joint, coalition environment is not easy. The complexities of the proposed operation in B-H made the Who, What, When, Where, Why, and How of OJE difficult to pin down (USAREUR AAR Volume I, 1997, p. xii).

As this quote indicates, the planning for Operation Joint Endeavor was very difficult. Part of the difficulty resulted from the uncertainty of the political situation in Bosnia and the outcome of peace negotiations. Another challenge resulted from NATO leading the planning effort and the resulting additional time for information to filter down through the multiple headquarters involved. Finally, OJE featured a compressed planning time line that forced parallel planning instead of the more formal, top down,

sequential planning familiar to Army planners. However, despite these difficulties, plans were developed at various headquarters and issued to their subordinate units. These plans and the efforts to produce them are discussed in this section. The first section will briefly cover the early planning, conducted between September 1991 and September 1995, for the operation by each headquarters involved. The discussion of planning conducted after September 1995 will be focused on the USAREUR level and below, including V Corps and 21st Theater Army Area Command (TAACOM).

1. Early Planning (September 1991 to September 1995)

Planning for potential peacekeeping operations in the former Yugoslavia began in late 1991. Allied Forces Southern Europe (AFSOUTH) began work on the development of Operations Plan (OPLAN) 40103, which was NATO's joint plan for peace operations in the former Yugoslavia (USAREUR AAR Volume II, 1997, p. 147). The NATO plan included using the Allied Rapid Reaction Corps (ARRC) and its subordinate units for any mission in Bosnia. One of the ARRC's subordinate units was the U.S. Army's 1st Armored Division, also a subordinate unit to V Corps and USAREUR. In addition to the 1AD, there were also several other V Corps units that had a role in the ARRC and this would later prove beneficial in the planning arena.

With the beginning of the development of OPLAN 40103, United States European Command (USEUCOM), USAREUR and V Corps began their planning in early 1992. The base document used by these staff planners was NATO OPLAN 4228, a peace implementation plan, and resulted in OPLANs 4228 at USEUCOM, USAREUR and V Corps headquarters (Kirkpatrick, 2001). These OPLANs continued in development and refinement at the various headquarters through 1993 and 1994. However, the planning during this timeframe was still at a very high level and not to a

very specific level of detail. The 1st Armored Division was the lowest level staff involved in any of the planning for this mission.

However, the situation in Bosnia began to deteriorate in early 1994 with the Bosnian Serbs attacking Sarajevo and shelling the "safe area" of Gorazde. Planning for a possible ground mission in Bosnia was again renewed. When General George Joulwan assumed duties as the Supreme Allied Commander, Europe (SACEUR) he issued guidance to Admiral Jeremy Boorda, Commander in Chief, Allied Forces Southern Europe (CINCSOUTH) to begin planning for the possibility of a short notice mission to extract the UNPROFOR from Bosnia (Kirkpatrick, 2001). This initiated planning on what would ultimately become AFSOUTH OPLAN 40104, the plan to extract UNPROFOR from Bosnia under hostile conditions. Again, this plan called for the use of the ARRC, which included the 1st Armored Division, which had been planning and training for a NATO contingency since 1992.

When AFSOUTH issued a draft of OPLAN 40104 in January 1995, USAREUR began conceptual planning with 1AD on their portion of the OPLAN. Up until that point however, there had never been a plan published lower than the AFSOUTH level. All the work was done at that level, with only bits and pieces passed down to subordinate headquarters to work issues. This caused some frustration among planners at the lower levels, particularly deployment and logistics planners who were never permitted to make any reconnaissance of the transportation and support infrastructure of the Balkans (Kirkpatrick, 2001). The lack of information led lower-level planners to make assumptions about information that would be critical during an actual deployment. One other fear crept into the minds of the lower level planners; a fear that the political events

in the Balkans might change so quickly that there would be inadequate time to prepare to properly deploy.

As the fighting escalated in early 1995, the planning for an extraction of the UNPROFOR began to take shape, particularly in the personnel arena. The Joint Staff requested that EUCOM provide a task organization for the mission, which EUCOM passed to USAREUR. USAREUR responded saying it needed 24,000 soldiers to accomplish the mission. That strength was disapproved by EUCOM and a strength cap of 13,500 was established (Kirkpatrick, 2001). However, no rationale was provided as to why the reduction was necessary or what should be excluded. In response to the cap, USAREUR provided a task organization of 13,500 troops, along with a risk assessment of using this smaller force. Several days later, the cap was raised to 14,900, which coincided with the force size that 1AD used in developing its plans (USAREUR AAR Volume II, 1997, p. 148).

In May 1995, the situation in Bosnia significantly worsened and USAREUR began to work with AFSOUTH to develop a number of Quick Response Options (QRO) to supplement OPLAN 40104. These QROs consisted predominately of SETAF airborne troops combined with V Corps aviation assets to be commanded by the SETAF Commander, Major General Nix, and codenamed Task Force Lion. SETAF planners finalized their Operations Order (OPORD) in June 1995 and were almost employed a month later.

In response to the continued Bosnian Serb harassment of the "safe areas" set up by the United Nations, NATO was poised to launch Task Force Lion. However, the Croatian-Muslim counter-offensive in August 1995 negated the necessity for using the

QRO. Around that same time, USAREUR was tasked by EUCOM to develop a concept for the implementation of a peacekeeping force in Bosnia. That requirement was further passed to V Corps to develop a campaign plan for that mission. Throughout the months of August and September 1995, planning and training continued to focus on the use of OPLAN 40104, with the peace implementation planning taking second priority. However, there was planning occurring at various levels for the peace implementation mission. AFSOUTH produced OPLAN 40105, the ARRC produced OPLAN 47402 and the Supreme Headquarters Allied Powers Europe (SHAPE) produced OPLAN 10405 (V Corps AAR, 1997).

Based on these OPLANs, Lieutenant General (LTG) John Abrams, the V Corps Commander, decided that the peace implementation mission had a high likelihood of occurrence so he directed his staff to begin to focus its attention on that planning effort. That would begin the planning that would ultimately result in USAREUR OPLAN 4243, concerning Title 10 issues and USAREUR Campaign Plan 40105, concerning the employment of Task Force Eagle (TFE) (USAREUR AAR Volume I, 1997, p. 150). This planning would also lead to the imposition of the force cap for TFE. Although USAREUR analysis determined that approximately 38,000 soldiers would be required for the peace implementation mission, EUCOM would eventually reduce that number to 20,000 (V Corps AAR, 1997).

2. Planning For Peace Implementation (October to December 1995)

Despite the fact that planning for the peace implementation mission was being conducted at NATO, ARRC, AFSOUTH and EUCOM headquarters, the flow of information through and between those headquarters was painfully slow. Also, because the political situation had yet to warrant a peace implementation mission, planning at the

higher headquarters progressed slowly. With this slow planning process at the higher levels and the lack of information regarding the planning effort, staffs at lower levels, particularly V Corps and USAREUR began pushing forward with their own plans. Starting at the end of September, a definite shift in the pace of planning was detected throughout USAREUR and V Corps. LTG Abrams felt that the order to deploy could come as early as 1 October and in the absence of a plan from higher headquarters, therefore urged his staff to develop a short notice plan to meet this possibility. Fortunately, this early notification never materialized, but spurred on by their commander's drive to ensure proper preparations for deployment, the V Corps and USAREUR staffs essentially entered a crisis action planning mode. This type of planning would be evident until the time the plan was executed.

Not satisfied with the planning linkup between V Corps and the units that would be performing the logistics operations during the deployment, the 21st TAACOM commanded by Major General (MG) James M. Wright and the 3rd Corps Support Command (COSCOM) commanded by Brigadier General (BG) Samuel L. Kindred, LTG Abrams ordered a planning conference. At the outset of the conference, conducted from 16-20 October 1995 at the Grafenwoehr Training Area, the TAACOM and the COSCOM were fully one month behind in planning for the peace implementation force. However, by the end of the planning conference, the staffs were totally synchronized and had developed the backbone of a clear, supportable plan. In addition, several crucial decisions or recommended solutions had been made. Probably the most critical recommendation made was to use Hungary as an Intermediate Staging Base, through which the entire TFE would deploy (V Corps AAR, 1997).

Sound transportation considerations made the selection of the area around Kaposvar and Taszar, Hungary the best choice for an ISB. It had the rail, air and road infrastructure that Belgrade, Serbia and Slovanski Brod, Croatia did not possess. Because the ISB would provide a platform for deploying units to be received into the area of operations (AO), staged during the validation process and then moved onward to the tactical assembly area for integration into the force moving into Bosnia, the transportation infrastructure was a must. While the transportation infrastructure was the primary reason Hungary was selected, several other factors were considered. Chief among them was the fact that the ISB would be in a country that had not been involved in the fighting in Bosnia and therefore would made the priority of force protection much easier. The Intermediate Staging Base would prove to be a vital link in the success of the deployment to Bosnia in support of Operation Joint Endeavor. Figure 2 shows the location of the ISB.

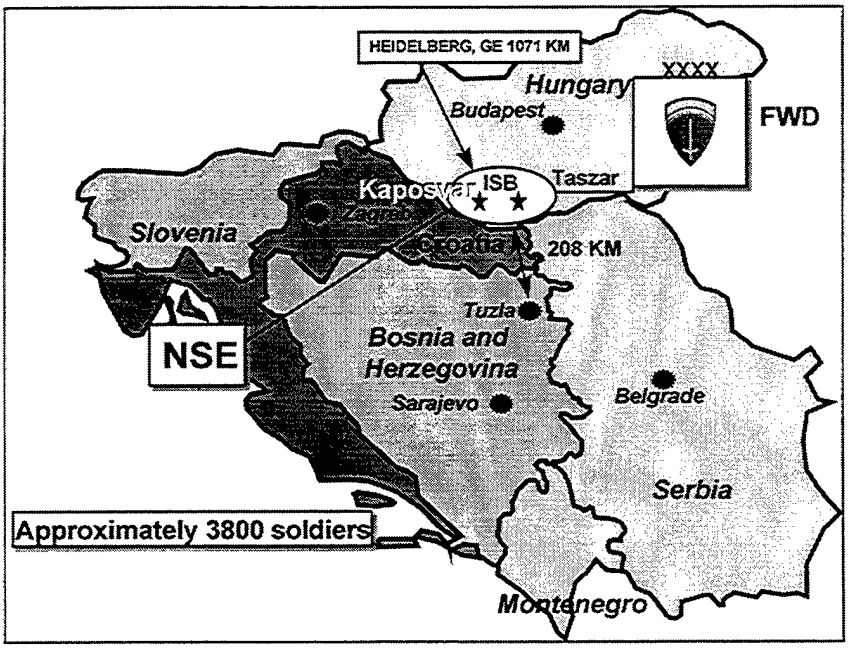

Figure 2. The Intermediate Staging Base (ISB) [From USAREUR AAR Volume I]

One key event that would have significant impact on the deployment also occurred independently of the Grafenwoehr planning conference. On 17 October, EUCOM ordered USAREUR to gather Level 2 Time Phased Force Deployment Data (TPFDD) in order to begin building the database that could be later used to direct the deployment. Level 2 data includes the total number of passengers by unit line number (ULN) and total short tons of cargo. Because of the planning that V Corps and the other organizations had accomplished at the Grafenwoehr planning conference, this information was fairly easy to obtain.

By the time the planning conference was over, the governments of Serbia, Croatia and Bosnia had agreed to meet for peace talks. Those talks began on 31 October 1995 outside Dayton, Ohio and further served to quicken the pace of planning for the deployment. As a result of these meetings, the Chairman of the Joint Chiefs of Staff issued an alert order on 4 November 1995 directing execution planning to commence. With this, the planning at the higher levels began to catch up with the planning done at the USAREUR and V Corps levels. General Joulwan's SHAPE headquarters completed its OPLAN 10405, called Operation Joint Endeavor, on 15 November and on 24 November, AFSOUTH submitted their support OPLAN 40105 (V Corps AAR, 1997). In the meantime, V Corps and USAREUR staffs had completed their campaign plan and began focusing on training and preparing for the deployment.

When the negotiating parties initialed the peace agreement on 21 November 1995, several last minute changes needed to be made to all the OPLANs to ensure they supported the agreement. USAREUR planners refined the reception, staging, onward movement and integration (RSOI) plan for Hungary, as well as the lines of

communication (LOC), enabling force structure and the concept of their operations. It was at this time that USAREUR also ordered the trains to accommodate the beginning of the deployment. Finally, during this time, President Clinton was briefed on the IFOR mission and issued an execution order to deploy the enabling forces on 2 December 1995. The deployment had begun.

3. Concept of Operations

> The Joint Endeavor concept envisioned a single US division organized with multiple brigades, numerous corps-level support units directly under division control, and a US Army Europe forward headquarters as the national support element in Hungary and Croatia. The first phase of the deployment of US forces from garrisons in Germany called for establishing a forward headquarters for US Army Europe in Hungary. The commander then expected to deploy engineer and combat units from Hungary to establish lines of communication and bases in Bosnia. Thereafter the bulk of the force would complete deployment to that area (Fontaine, 1997, p. 52).

SACEUR, General Joulwan, envisioned this exact type of deployment when he published SHAPE OPLAN 10405. The OPLAN called for a five-phase operation with two deploying forces. The five phases were: Phase I, Preparation and deployment of theater enabling forces; Phase II, Entry; Phase III, Implementation; Phase IV, Transition to Peace and Phase V, Exit. The two deploying forces were the enabling force, mentioned in Phase I and the implementing force, to deploy in Phase II. The enabling force was to provide command and control, reception, a force to take the transfer of authority (TOA) from the UNPROFOR and support for the deployment of the implementing force (Crawley, 1995, p. 3). The implementing force would enforce the zones of separation (ZOS) and establish an environment in which the terms of the Dayton Peace Accords could be carried out (V Corps AAR, 1997). The OPLAN also envisioned dividing Bosnia into three sectors or multinational divisions (MND). MND Southwest

(SW) was under the command and control of the British, MND Southeast (SE) was under the control of the French and MND North (N) was under the control of Task Force Eagle. This thesis will only deal with the deployment of TFE. Figure 3 shows the area of operations and the division of Bosnia.

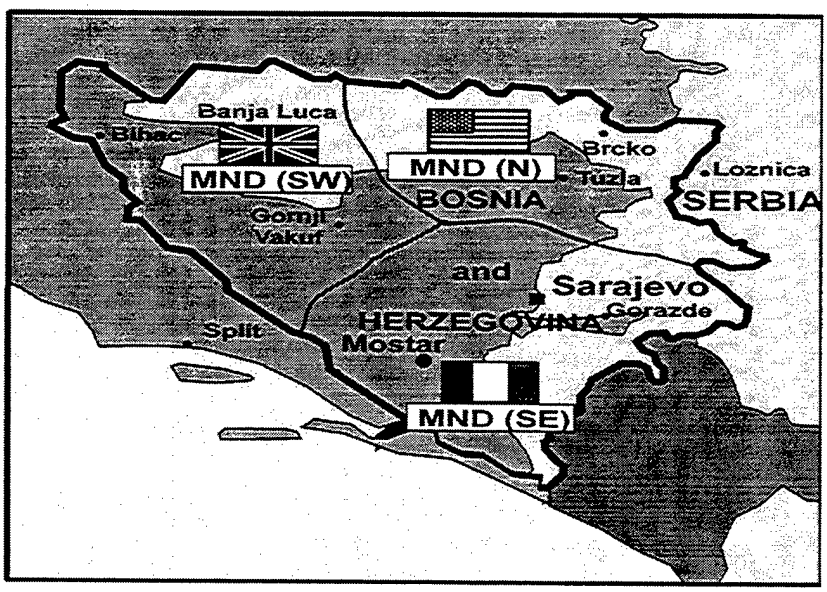

Figure 3. Area of Operations and Military Division of Bosnia [From USAREUR AAR Volume I]

The AFSOUTH and USEUCOM OPLANs mirrored the intent and concept of operations from the SHAPE OPLAN. In addition to the five phases, each of the OPLANs also reinforced the commander's intent that security and force protection were a top priority in this deployment. The EUCOM OPLAN had an additional assumption that would almost cause significant disruption in the deployment flow. EUCOM assumed that NATO would handle the coordination for Status of Forces Agreements (SOFA), transit agreements and host nation (HN) support agreements. The transit agreement assumption was critical since the primary method of deployment for this operation would be rail and those trains would have to transit several sovereign countries enroute to Hungary.

The USAREUR OPLAN was much more specific in its concept of the operation. CINCUSAREUR supported the SACEUR's five phases and specifically laid out his five step methodology for supporting the plan. First, he intended to train and condition the force to deal with the cold weather, land mines, peace enforcement operations and the specific rules of engagement (ROE). Second, he was going to establish a power projection base in Hungary to rapidly introduce forces and maintain an uninterrupted flow of supplies. Third, he would integrate any UNPROFOR elements or other multinational units that were tasked to be part of the U.S. force. Fourth, he would support the force logistically from the Central Region logistical base. Finally, he intended to avoid the mission creep that would prevent his forces from exiting (USAREUR AAR Volume I, 1997, p. 36).

In addition to the focused concept of operations, the USAREUR OPLAN laid out a deliberate timetable for a sequential deployment, triggered by the signing of the Dayton Peace Agreement in Paris. That day would officially become G-Day and was meant to signal the beginning of the deployment of the main body into Bosnia. The enabling force was scheduled to deploy fourteen days before G-Day on what was officially known as C-Day. The enabling force would contain the RSOI force and LOC opening force and would establish the ISB as a transportation hub and power projection base to control the deployment and later sustainment of Task Force Eagle. USAREUR would establish its headquarters in Hungary, officially called USAREUR (Forward), and later changed to the National Support Element (NSE). The TOA between UNPROFOR and IFOR, represented by the 3-325 Airborne Infantry, from Vicenza, Italy, also known as the Initial Entry Force, would happen on G + 5, also designated as D-Day. Then the LOC opening

force would deploy to build a bridge across the Sava River. Once the bridge was completed, Task Force Eagle would relieve the Initial Entry Force and by D + 30, Task Force Eagle would control the ZOS. The graphic in Figure 4 shows the key days and proposed actions completed on those days.

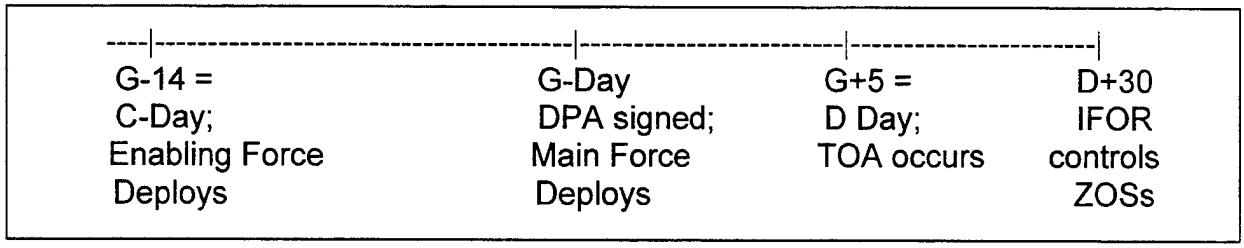

Figure 4. OPLAN Proposed Time Line [From V Corps AAR]

In addition to this time line, the USAREUR OPLAN also established a D-Day schedule to coincide with the five phases of the operation from the SACEUR order. Phase I would last from D–19 until D-Day, Phase II from D-Day until D+29, Phase III from D+30 to D+90, Phase IV from D+91 to NLT D+365 and Phase V would be complete NLT D+365 USAREUR AAR Volume 1, 1997, p. 38).

4. Unit Preparation and Task Organization

a. Training

This section deals with pre-deployment training and preparation as well as the ultimate task organizations of the units deploying in support of Operation Joint Endeavor. One of the many aspects of this mission that LTG Abrams emphasized was unit preparedness. He forced his staff to plan well in advance of receiving information from his higher headquarters in order to allow subordinate units sufficient time to train and prepare for this mission. He refused to accept the risks associated with deploying untrained or inexperienced troops. The training program that his staff established was thorough and was designed to ensure, through validation, that each individual soldier and

unit was familiar with the mission, the area and the "enemy". This training program also included family orientations as well. "By the time the force was deployed, virtually every soldier, civilian, and family member in USAREUR had been exposed to special training or orientations related to OJE." (USAREUR AAR Volume I, p. 142)

USAREUR created the Mountain Eagle training program, which was specifically designed to train the force to accomplish the mission set forth in the SACEUR OPLAN. The major training areas of Grafenwoehr and Hohenfels were the principal locations for conducting this training. The training consisted of a political-military (POL-MIL) seminar, two deployment exercises (DEPEX), two command post exercises (CPX), three fire coordination exercises (FCX) and a multi-event certification (mission rehearsal) exercise (USAREUR AAR Volume I, p. 145). These exercises, along with the five situational training exercise (STX) lanes that were established helped to train Task Force Eagle soldiers on the ZOS mission, terrorism, mine awareness, snipers, mass casualties, convoy escort, an embedded media, downed pilots, ethnic violence, handling refugees, the rules of engagement, negotiations, patrolling, and set up and execution of check points (V Corps AAR, 1997). All of these tasks were accomplished during two Mountain Eagle exercises between October and December 1995. Table 2 shows the scheduling of the exercises and whom they trained.

EXERCISE	DATES	UNIT TRAINED	MISSION
MOUNTAIN EAGLE	16 October - 22 November 1995	TFE and NSE forces	IFOR Mission
MOUNTAIN EAGLE II	10-14 December 1995	TFE (1AD and 3 Multinational Units)	IFOR Mission

Table 2. Operation Joint Endeavor Training Exercises [After V Corps AAR]

While the aforementioned training was significant for the warfighter, the missions those soldiers were being trained for could not be accomplished if the soldiers were unable to deploy to the area of operations. Therefore, USAREUR determined that it needed to conduct deployment training to ensure that forces were able to deploy to their respective AO. Another reason this training was necessary was that this deployment was different than any deployment that USAREUR had ever conducted. USAREUR's traditional deployment training involved moving units to their General Defense Positions (GDP) in the case of a Warsaw Pact invasion of Western Europe. This training also included receiving units from the continental United States (CONUS) who were returning to Germany to ward off the Eastern invaders. The deployment conducted by USAREUR units in support of Operation Desert Storm was essentially a reverse of previous deployment exercises. Instead of receiving CONUS troops at air and sea ports of debarkation (APOD/SPOD), the USAREUR soldier were deploying from those same familiar ports. So the Desert Storm deployment did not stretch the level of experience within USAREUR. Operation Joint Endeavor's deployment would be like nothing USAREUR had ever experienced.

USAREUR held two deployment exercises prior to the actual Operation Joint Endeavor deployment. A third was scheduled, but was overcome by the actual deployment. The first deployment exercise, called DEPLOYEX, was held at the Grafenwoehr training area on 14-15 October 1995. Participants included the 21st TAACOM, 1st Theater Movement Control Agency (TMCA), 3rd COSCOM, 1st Armored Division and all USAREUR Area Support Groups (ASG) (USAREUR AAR Volume 1, 1997, p. 163). The DEPLOYEX was focused on deploying at the unit level and

addressed deployment procedures and processes. This was helpful since a valid deployment plan for this mission had still not been issued. Exercise participants also discussed the use of ASGs and their subordinate Base Support Battalions (BSB) as platforms for this deployment. It became clear very early that these units were not prepared for this mission. They lacked the staffing, resources, training, and documentation, including deployment standard operating procedures (SOP). It was also apparent that deployment SOPs were a problem throughout the command. One of the main requirements resulting from the DEPLOYEX was for units to update their deployment SOPs.

The second deployment exercise, DEPEX II, was conducted 24 November at various headquarters and railhead locations throughout Germany. It consisted of two parts, an loading exercise (LOADEX), an abbreviated field training exercise to ensure railhead support proficiency from the BSBs and a computer simulation exercise (SIMEX) which simulated part of TFE deploying to the ISB. During this exercise, the various command and control headquarters involved monitored the exercise using the Standard Theater Army Command and Control System (STACCS). USAREUR designated and validated this system as the deployment tracking and reporting system for the Operation Joint Endeavor deployment. The exercise was a success and showed that the ASGs were prepared to handle the deployment. However, the exercise also identified several shortfalls with STACCS, including lack of trained operators, non-availability of STACCS operators and equipment, and lack of a STACCS SOP. The DEPEX II also identified the lack of a call forward process for initiating a unit deployment through the operations, support and transportation chains.

b. Preparations

In addition to the training conducted prior to Operation Joint Endeavor, units undertook numerous other tasks in order to prepare for deployment. The OPLANs published very specific guidelines for individual and unit pre-deployment activities. Personnel processing such as inoculations, wills, powers of attorney and dental checkups were accomplished at unit's home stations during soldier readiness processing (SRP). Other individual processing included ensuring deploying personnel had all their required organizational clothing and individual equipment (OCIE). This was especially important and monitored closely by headquarters at all levels because of the timeframe of the deployment. LTG Abrams had issued guidance that cold weather injuries would not be tolerated, so the chain of command ensured every soldier had their extreme cold weather issue from the Central Issue Facility (CIF). Married soldiers were provided time to spend with their families to ease the burden of separation. Single soldiers coordinated for storage of personal belongings and privately owned vehicles (POV). This was a very busy time for all deploying soldiers.

Unit preparations included packing containers and vehicles in preparation for deployment. Vehicle maintenance and inspections were conducted to ensure proper vehicle operation. Supplies were ordered and packed to ensure soldiers were supported during the deployment and before the support infrastructure was established in theater. Family briefings were held to inform spouses and children of the upcoming mission. Vehicles were weighed and marked for air transportation or prepared for rail movement. A myriad of other pre-deployment tasks were accomplished during this time, which was

extremely hectic. Unit commanders also had to ensure a balance of time to accomplish both unit and individual preparations.

c. Task Organization

Operation Joint Endeavor was the most complex operational command and control challenge for the U.S. Army in Europe since World War II. Command relationships were, however, based on long-standing command and control relationships in Europe and NATO. USAREUR would serve as a force provider for both CINCSOUTH, who was acting as Commander, Implementation Force (COMIFOR) and the NATO Land Component Commander, Commander, Allied Rapid Reaction Corps (COMARRC) (USAREUR AAR Volume I, 1997, p. 48). These organizations would have operational control (OPCON) of the 1st Armored Division and their associated elements, which made up Task Force Eagle. Figure 5 shows the command and control relationship of the NATO mission.

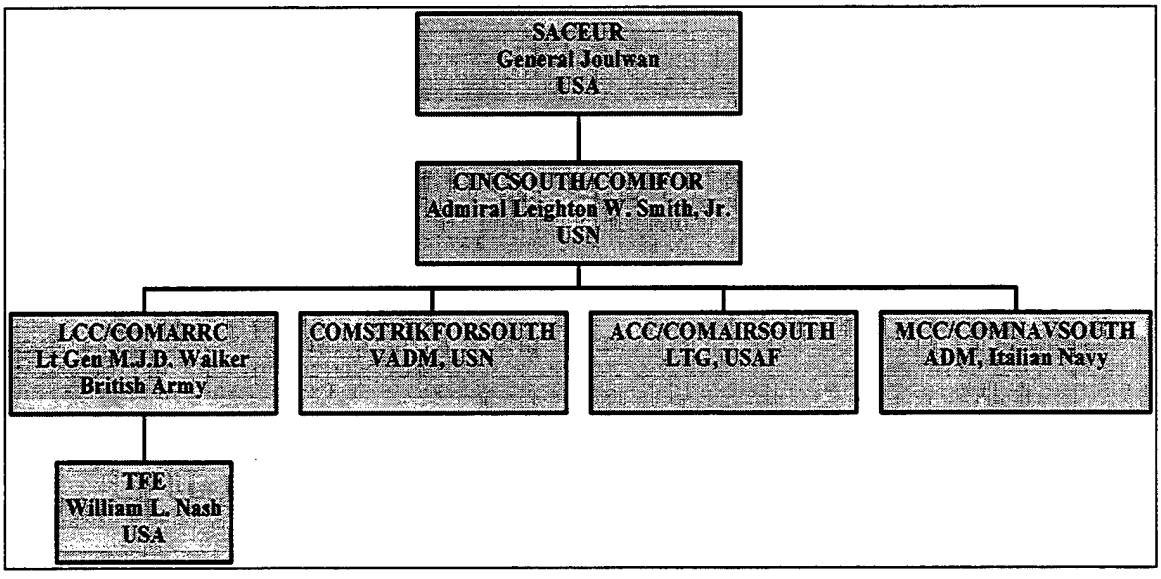

Figure 5. Chain of Command for Operation Joint Endeavor [After USAREUR AAR Volume I]

In addition to this structure there was the structure of the units in the ISB. These units fell under the command and control of USAREUR (Forward) for the purpose of establishing a National Support Element to support deployed U.S. forces in the area of responsibility. This support included all logistical support as well as Title 10 support. USAREUR (Forward) was composed primarily of the 21st TAACOM (Forward) and also included the 7th Signal Brigade, 30th Medical Brigade, 1st Personnel Command (PERSCOM) and the 266th Finance Command.

21st TAACOM (Forward) was made up primarily of staff from the 3rd COSCOM because the TAACOM did not have the structure necessary to deploy and still fulfill their extensive Central Region support mission. Therefore, 200 of the 251 soldiers assigned to the 3rd COSCOM staff deployed to Hungary to make up the 21st TAACOM. The Commander, 3rd COSCOM, BG Samuel L. Kindred was the Commander, 21st TAACOM (Forward). Figure 6 shows the USAREUR command and control relationship during Operation Joint Endeavor.

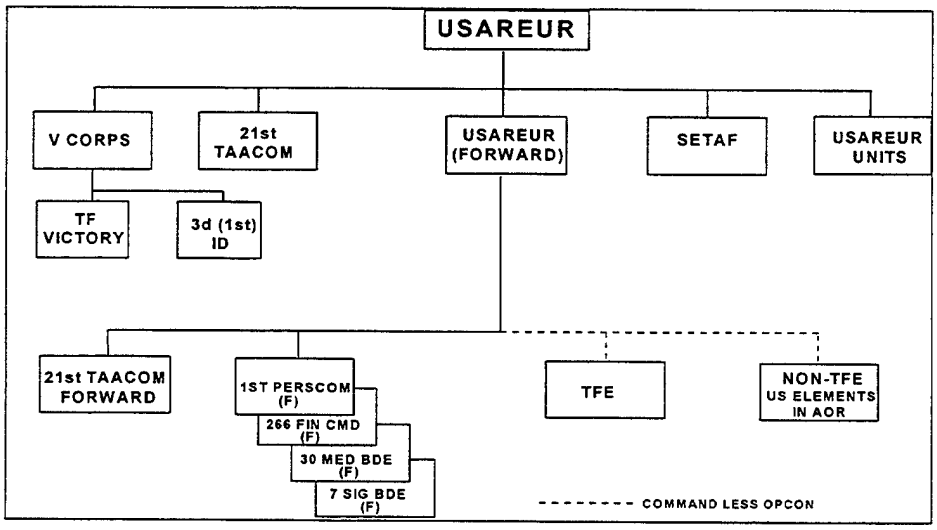

Figure 6. USAREUR Command and Control During OJE [From USAREUR AAR Volume I]

Finally, the 1st Armored Division, commanded by Major General William L. Nash, formed the bulk of what would be Task Force Eagle and was made up of the 1st and 2nd Brigade Combat Teams (BCT), as well as the 4th Brigade, an aviation brigade. In addition to these units, 1AD had the Division Support Command (DISCOM) with its four support battalions, an Engineer brigade, a Field Artillery (FA) brigade, a Military Intelligence (MI) battalion, a Signal battalion and an Air Defense (AD) battalion rounding out its task organization. The division also had several attached units, including the 16th Corps Support Group (CSG), part of the 30th Medical Brigade, part of the 22nd Signal Brigade, part of the 205th MI Brigade and part of the 18th Military Police (MP) Brigade. The total division strength for the deployment was around 19,900 soldiers (V Corps AAR, 1997).

Table 3 shows the composition and strength of the 1st Brigade Combat Team. The 1st BCT was commanded by Colonel Gregory R. Fontenot.

1st Brigade Combat Team
1st Brigade Headquarters
3rd Battalion, 5th Cavalry
4th Battalion, 67th Armor
2nd Battalion, 3rd Field Artillery
C Battery, 333 Target Acquisition Battery (TAB)
23rd Engineer Battalion
501st Forward Support Battalion (FSB)
Combat Support (CS)/Combat Service Support (CSS)
Total Strength: 2,516

Table 3. 1st BCT Units and Strength [After USAREUR AAR Volume II]

Table 4 shows the 2nd Brigade Combat Team's composition and strength. The 2nd BCT was commanded by Colonel John R.S. Batiste.

2nd Brigade Combat Team
2nd Brigade Headquarters
4th Battalion, 12th Infantry
2nd Battalion, 15th Infantry
2nd Battalion, 68th Armor
3rd Squadron, 4th Cavalry
4th Battalion, 29th Field Artillery
B Battery, 25th TAB
40th Engineer Battalion
47th FSB
CS/CSS
Total Strength: 3,341

Table 4. 2nd BCT Units and Strength [After USAREUR AAR Volume II]

Table 5 shows the 4th Brigade, which was envisioned as being a quick strike aviation brigade, if necessary. Colonel William L. Webb III commanded the 4th Brigade.

4th Brigade Strike Force
4th Brigade Headquarters
2nd Battalion, 227th Attack Helicopter
3rd Battalion, 1st Attack Helicopter
7th Battalion, 227th Assault Helicopter
C Battery, 333 Target Acquisition Battery (TAB)
A Company, 5th Battalion, 159th Medium Lift Hel
236th Medevac
Total Strength: 1,173

Table 5. 4th Brigade Units and Strength [After USAREUR AAR Volume II]

The final piece of the deploying 1st Armored Division was the follow on sustainment units. These are all the units attached to the division providing various types of support. Table 6 shows these units and their overall strengths.

Follow On Sustainment Forces	
Divisional Artillery (A/94 MLRS Battery/TAB)	390 personnel
18th MP Brigade	1221 personnel
205th MI Brigade	918 total, 501 in B-H
22nd Signal Brigade	1107 total, 1007 in B-H
Engineer Brigade (-)	798 personnel
Division Support Command	979 personnel
16th Corps Support Group	1416 total, 1258 in B-H
Division Troops	570 personnel
30th Medical Brigade	640 personnel
Total Strength: 8,039	

Table 6. Follow on Force Units and Strengths [After USAREUR AAR Volume II]

5. Execution of Orders

On 1 December 1995, NATO authorized the deployment of the IFOR enabling force and SHAPE sent its activation order (ACTORD) to AFSOUTH. On 2 December, the Joint Chiefs of Staff (JCS) issued an execution order for the enabling force and EUCOM and USAREUR issued further guidance on personnel qualification standards for IFOR. On 3 December, President Clinton authorized the initial deployment of U.S. forces as part of IFOR and EUCOM issued its deployment alert order. Throughout the first several days of December, the chain of command issued a myriad of ACTORDs and execution orders (EXORD), as well as the approved OPLANs that the lower-level headquarters were anxiously awaiting. On 7 December, the initial contingent of

USAREUR soldiers in the enabling forces departed Germany by C-130 and landed in Tuzla. This would be the beginning of the NATO presence in Bosnia that continues until the present day. On 12 December, Hungary approved the Status of Forces Agreement to provide assistance to the U.S., allowing the Army to use Kapsovar-Taszar as the ISB. The Dayton Peace Agreement was formally signed in Paris on 14 December 1995, which triggered a flow of EXORDs from the various headquarters aimed at beginning the main force deployment. RSOI and LOC-opening force soldiers began to deploy almost immediately from Germany. On 17 December 1995, SETAF deployed the 3-325 Airborne Infantry from Italy to Tuzla. The 3-325 in turn, conducted the transfer of authority from the UNPROFOR on 20 December. Initial elements from the 502nd Engineer Company reached Zupanje, Croatia and began preparations for the pontoon bridge that would link the 1st Armored Division and Task Force Eagle to Bosnia. The flow of the TFE could now begin.

B. DEPLOYMENT: 1ST ARMORED DIVISION AND SUPPORTING FORCES

As previously mentioned, CINCUSAREUR, General Crouch, desired a steady and deliberate deployment of the seven force packages into the AO. The concept envisioned the movement of troops from home station to the port of embarkation (POE), movement from the POE to POD, reception and staging activities in the ISB, onward movement to the tactical assembly area and integration of forces. Because the majority of forces were from USAREUR, the flow would primarily come from Germany. However, because President Clinton had initiated a Presidential Selective Reserve Call-Up (PSRC), there would be Reserve Component forces flowing from CONUS as well.

Once the Reserve Component soldiers arrived in Germany, they would follow the same deployment procedure as the forces deploying from Germany.

1. Central Region Operations (Germany)

In Germany, the USAREUR Headquarters was responsible for developing requirements and movement priorities, monitoring the flow of forces, coordinating changes to the flow and issuing call forward instructions. The 21st TAACOM, commanded by MG James Wright, was the executive agent for the deployment and relied heavily on 1st TMCA, commanded by COL Bruce Laferriere, for planning, coordinating and managing common user land transportation in Germany, as well as movement control and movement tracking during the deployment. The Area Support Groups in Germany and their subordinate Base Support Battalions , all under USAREUR command and control, were responsible for assisting deploying units at the ports of embarkation. The 1st Armored Division, the main deploying unit, was responsible for preparing soldiers and equipment for deployment, loading vehicles at the POE and verifying and validating the priorities set by USAREUR.

Deployment execution for a unit began with a call forward to the railhead or APOE at Ramstein Air Base (AB) or Rhein-Main AB. The call forward started at USAREUR and went from there to the 21st TAACOM to the 1st TMCA, to a movement control team (MCT) to a branch movement control team (BMCT). The BMCT would pass the actual movement orders on to the unit. Of course, there was also an informal notification chain, but a unit was not allowed to load rail cars unless they had a valid movement order.

Because the deployment relied heavily on rail movements, 1st TMCA decided to use STACCS as its movement planning and command and control system. The TMCA was very familiar with STACCS and it lent itself easily to the use of NATO Standardization Agreements (STANAG), a requirement for requesting rail cars in Germany. The next several paragraphs will deal with various aspects of the deployment from Germany.

a. Area Support Groups/Base Support Battalions as "Launching Platforms"

For the first time in a major contingency operation, ASGs and BSBs performed as deployment platforms for USAREUR units. As previously discussed, no doctrine existed for this mission. Therefore, USAREUR conducted two deployment exercises to ensure these "launching platforms" were prepared to conduct this mission. In performing this mission, the BSBs relieved deploying units of some of the burden of deploying and allowed them to focus on the mission.

Throughout Germany, as the 1st Armored Division and their supporting units geared up to deploy, BSBs were organizing, training, ordering blocking, bracing and tiedown (BBT) materials, preparing safety briefings and obtaining safety equipment. Deploying units would coordinate ahead of time with the BSB on the date they were supposed to depart. Once the unit showed up at the railhead, the only task the unit performed was to provide equipment operators to drive the equipment onto the trains. BSB personnel and augmentees from non-deploying units formed a "power projection unit" that would ground guide all vehicles onto the train, secure the vehicles, and load containers onto the train (Allen Interview, 1996).

Because the deployment encompassed over 30 railheads in Germany, the ASGs and BSBs were extremely busy during the deployment. The major player in the deployment was the 53rd Area Support Group, headquartered in Wiesbaden, with the subordinate 221st BSB in Wiesbaden, 222nd BSB in Baumholder and the 410th BSB in Bad Kreuznach. These BSBs controlled the communities where the 1st Armored Division was stationed as well as the Headquarters, 3rd COSCOM. The 26th ASG, headquartered in Heidelberg, supported the communities of Heidelberg, with the 411th BSB; Mannheim, with the 293rd BSB and Kaiserslautern, with the 415th BSB. Heidelberg was the home of USAREUR and V Corps Headquarters, Mannheim was home to the 5th Signal Command and the 181st and 28th Transportation Battalions and Kaiserslautern was the home of the 21st TAACOM, 1st TMCA, 37th Transportation Command and 29th Support Group. These two ASGs supported a significant portion of the soldiers deploying to Hungary and Bosnia. Another ASG that also played a key role in the deployment was the 104th ASG in Hanau. Its subordinate BSBs, the 414th BSB in Hanau deployed the 1st Armored Division's 4th Brigade and the 16th Corps Support Group, the 284th BSB in Giessen deployed the 1st Armored Divisions 1st Brigade Combat Team and the 233rd BSB in Darmstadt deployed key signal and air defense units into the AO. Two other ASGs of note are the 22nd ASG in Vicenza, Italy, which deployed SETAF as the initial entry force and the 100th ASG in Vilseck, Germany, which provided support to the convoy support center (CSC) in Regensberg, Germany.

b. Standard Theater Army Command and Control System (STACCS)

STACCS is one of the Army's many transportation automated systems used in deployments. STACCS provides replicated databases with common situation

maps, communications, man-made interfaces, briefing systems, and commercial off-the-shelf software to theater commands and major subordinate commands. One of STACCS's modules allows for easy movement planning and the communications piece lends itself well to deployment tracking. In addition, all of TMCA's subordinate MCTs had STACCS and could see near real-time scheduling and movement information. This made it very easy for the entire movement control structure in Germany to be synchronized.

For OJE, STACCS was the system selected by the 1st TMCA, a theater command, as the primary deployment and automated force-tracking system in theater. The main reason that STACCS was selected was familiarity. The 1st TMCA was more familiar with STACCS than they were with Transportation Coordinator's-Automated Command and Control Information System (TC-ACCIS) or the Joint Operation Planning and Execution System (JOPES). This decision would later prove to be one of the main sources of difficulty in developing a comprehensive and coherent deployment plan.

c. NATO Standardization Agreements (STANAG)

As the acronym states, STANAGs are NATO Standardization Agreements. For the deployment from Germany to the Balkans, STANAGs would play an important role in the rail deployment, because in Germany, USAREUR uses STANAGs to request trains for movement and to determine proper tiedown of vehicles in transit.

The first STANAG specifies a standard form that units use to request rail cars for deployment. The STANAG requires units to list their origination, destination, types of vehicles deploying, weights, and other measurements such as length, width and

height. Units, especially combat units, frequently use STANAGs to request support in moving their tracked vehicles to one of the major training areas within Germany. In addition, the use of STANAGs at the TMCA Headquarters was a daily occurrence. Because of this common use, USAREUR planners thought that it was not necessary to include the STANAG in predeployment training. This omission would prove detrimental at the beginning of the deployment.

The second STANAG, STANAG 2173, lists standards for blocking, bracing and tiedown of equipment being transported by rail. This second agreement was widely used by the ASGs and BSBs who were responsible for securing vehicles at the railheads. However, this too would develop into a problem as the first trains departed Germany and moved into non-NATO countries.

2. Deployment Modes

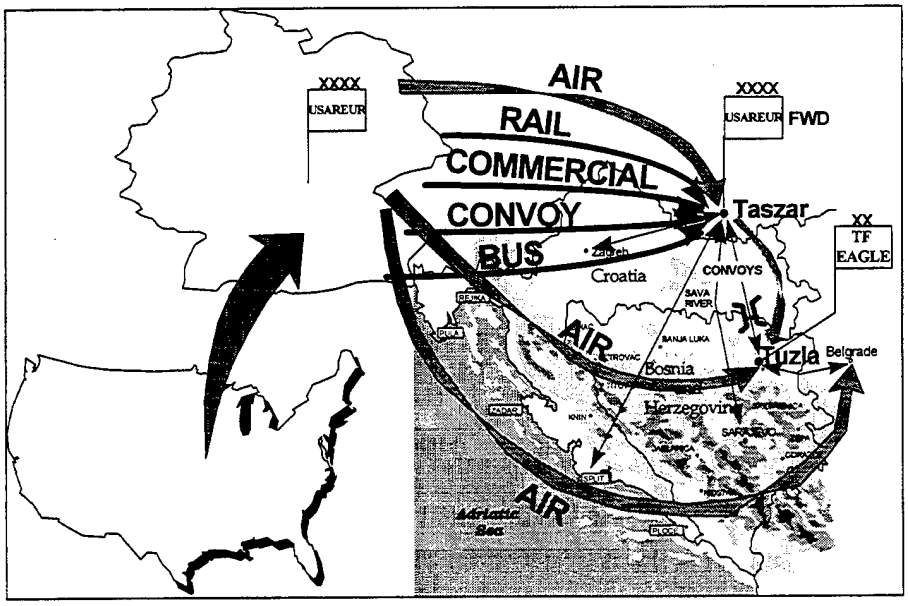

Figure 7. Deployment Modes for OJE [From USAREUR AAR Volume I]

a. Air

The move from home station or the port of embarkation to the ISB was non-tactical. Units moved as transportation packages by some combination of air, train, bus or convoy to the ISB where the 21st TAACOM (Forward) and the 29th Area Support Group would receive, stage, and onward move the soldiers into Bosnia. Figure 7 depicts the many modes of transportation the deploying forces would use.

For the deployment to Bosnia in support of Operation Joint Endeavor, USAREUR planned to use one of the two Air Force Bases strictly as an aerial port of embarkation (APOE) for deployers and the other as an APOD for receiving active and reserve component units from CONUS. But, because of shortages in other modes of transportation, compressed deployment timelines and the weather, USAREUR was forced to increase the use of airlift and open both airports as APOEs.

Rhein-Main Air Base, famous for its support of the Berlin Airlift, is located only a few miles south of Frankfurt, Germany in the heart of the country. In April 1995, Rhein-Main Air Base, known as the "Gateway to Europe," had just completed drawing down to about half of its 1993 strength (Rhein-Main History Website, 2001). Early in the deployment planning, USAREUR staffers determined that Rhein-Main would be the APOD for deploying units from CONUS. This decision was made for two reasons: first, since Ramstein Air Base's runways and taxiways were originally designed for fighters, they were not ideal for Air Mobility Command (AMC) aircraft and second, Rhein-Main was originally designed as a passenger terminal and was much more efficient in handling passengers (V Corps AAR, 1997). In addition, the only functioning Air Terminal Movement Control Team (ATMCT) was located at Rhein-Main. The

ATMCT at Rhein-Main and the Arrival/Departure Air Field Control Group (A/DACG) at Ramstein were the primary interface with the Air Force airmen and loadmasters on the ground at the air bases (Sundin Interview, 1996). These soldiers were assigned to the 37th Transportation Command in Kaiserslautern, but were actually stationed at the air bases.

The other base, Ramstein Air Base, was located outside of Kaiserslautern, Germany about an hour from the French-German border. USAREUR determined that this base would be the hub for receiving and flowing sustainment material. During the operation, Ramstein would become a huge transfer area for critical resupply items such as repair parts and petroleum, oil and lubricants (POL). Ramstein would receive these items from CONUS on strategic airlift and then forward them to the ISB. During the sustainment phase, Ramstein was chosen as the sole APOE and therefore would be responsible for not only the sustainment material flow, but also for the personnel replacement flow as well.

During the entire operation, 27% of the passengers and 12% of the cargo deployed into the AO were transported by air (USAREUR AAR Volume II, 1997, p. 256). There were two primary airplanes transporting passengers and cargo into Hungary and Bosnia. The theater lift C-130 Hercules assets belonging to U.S. Air Forces Europe (USAFE) performed the bulk of the hauling, transporting 80% of the passengers and 50% of the cargo moved by air into the AO. The other main workhorse was the new C-17 Globemaster III aircraft. This was the first operational test for this aircraft and of the 1,358 sorties the Air Force performed, about 25% of those were flown by the C-17. However, this roughly 340 sorties accounted for approximately 50% of the cargo moved by air (V Corps AAR, 1997). Although these two types of aircraft provided the majority

of the lift for this mission, C-5 Galaxys and C-141 Starlifters participated in the mission also.

b. Rail

Deploying by rail in Germany was much more complicated than deploying by air. The biggest difference between the two is that for Operation Joint Endeavor, there were only two APOEs, Ramstein and Rhein-Main. However, there were 30 different railheads throughout Germany that were used as deploying railheads (USAREUR AAR Volume I, 1997, p. 167). As previously mentioned, the ASGs and BSBs were responsible for acting as "launching platforms" for the deploying units from their communities. This was particularly true for rail operations.

Almost every military community in Germany had a railhead. More often than not, this was nothing more than a spur or a siding off a main line. But that, coupled with a loading ramp, gave each BSB the capability to load trains to deploy their units. Because the majority of equipment for this operation was planned to deploy by rail, BSBs had to be highly proficient at rail loading vehicles.

The Deutsche Bundesbahn (DB) provided railcars to USAREUR based on requests from deploying units. There were many problems with the initial rail load phase of the deployment, but those will be discussed in Chapter III. The biggest issue was caused by the fact that the DB had been privatized as part of deregulation of the German railroad industry, therefore USAREUR had to compete against German firms for railcars. Another difficulty was that USAREUR had planned for dining cars to deploy with each train, but because there were none available, coaches or sleeping cars were substituted (Schneider Interview, 1996).

During the deployment, a total of 409 trains were used to transport cargo into Hungary and Croatia. Each of these trains averaged 35 to 38 cars and cost the U.S. government between DM180,000 and DM 230,000, which converted at the 1995 exchange rate of approximately DM1.50 per dollar is about $120,000 to $150,000 (Schneider Interview, 1996).

Of the more than 7,000 railcars used during the operation to transport cargo, there were six principal types of cars used. Among these were K cars, which are 12-meters, RS cars, which are 18-meters, and SAS, RLM and P cars, which are heavy duty cars used for transporting Task Force Eagle's M1A1 Abrams tanks and the M2 Bradley fighting vehicles. The final type of car used was the TWA or "trans wagon." This was a deep-welled car that was used for carrying oversize, but not necessarily heavy equipment (Sundin Interview, 1996).

Because part of the original plan was to deploy personnel by rail along with unit cargo, there was also a significant use of sleeping cars and coaches. Many of the first trains that departed had several coaches, which were designed to carry 50 people, with between 30 and 35 soldiers loaded onto each car. During the deployment, over 15,000 soldiers deployed by rail, with over half that total coming in the first 30 days (USAREUR AAR Volume II, 1997, p. 249). Because the train trip to Hungary from Germany would last anywhere from four to five days, USAREUR decided to limit the number of personnel deploying by rail. Instead they opted for deploying personnel aboard commercial buses, a trip that lasted only 24 hours.

c. Commercial Truck

Although there was never a comprehensive plan for using commercial trucks during the deployment, these vehicles were used extensively for carrying many different types of cargo. In most cases, commercial trucks were a stopgap method to make up for a shortage of other assets, such as rail cars or military trucks. However, at the beginning of the deployment, special tenders were established in Germany by the 1st Theater Movement Control Agency for moving medical supplies and food. A tender is essentially a contract between a qualified transportation provider and the U.S. government (Joint Deployment Training Center (JDTC) Glossary, 1998).

There were numerous ad hoc movements, especially for oversize and outsize cargo that could not be moved by rail. There were many cases where a unit would be loading at a railhead and would not have sufficient rail cars to finish the load. The unit would move the equipment off to the side and call the BMCT to request commercial trucks to move the excess cargo.

d. Convoy

The original deployment plan called for very few, if any unit convoys during the deployment. The route between Germany and Hungary was over 1,000 kilometers, through several nations, and with no ability for USAREUR to support the convoys in between. However, during the initial days of the deployment, the movement timeline was compressed and several combat units were moved up in the flow. Because of the shortage of time, units such as the 181st Transportation Battalion, V Corps' only organic transportation battalion, which was tasked with onward movement from the ISB, was ordered to convoy from Germany to the ISB.

On 11 December 1995, the first of four 181st Transportation Battalion convoys departed Mannheim enroute to the ISB. The final convoy departed on 19 December and all convoys had closed in Kaposvar, Hungary by 23 December. Each convoy took three days to drive and on the last night before arriving in Hungary, the each convoy overnighted at an Austrian Army Kaserne, a first for this deployment (Herson, 1996). This convoy deployment was extremely challenging for the battalion, but they successfully accomplished the mission.

Although very few units actually deployed in their entirety by convoy to Operation Joint Endeavor, convoys were consistently used to deploy excess equipment, much in the same manner that ad hoc commercial trucks were used. The 28th Transportation Battalion, assigned to the 37th Transportation Command, had five companies of M915 tractors and M872 trailers, essentially a long haul tractor-trailer combination. These combinations were heavily used to deploy unit equipment, but would also form the basis of the "Eagle Express."

"Eagle Express" was the codename for the surface LOC between Germany and Hungary, and the same term would also later be used for the daily resupply convoys that the 28th Transportation Battalion would run from Germany to Hungary. "Eagle Express" was designed to provide reliable resupply and the ability to expedite high priority, outsized or overweight cargo on a regular basis (Kubiszewski, 1997, p. 5). "Eagle Express" convoys continue to perform their resupply mission to this day.

e. Bus

The main mode for passenger ground travel anywhere in theater was commercial bus. The deployment of personnel from Germany to Hungary by

commercial bus took 20 to 24 hours. The buses that were contracted from German bus companies were either 50 or 60 passenger buses. However, as a planning factor, the bus would only be filled to half capacity. This would allow room for soldiers' bags and other belongings.

Personnel movements within the AO were also accomplished by commercial buses contracted from Hungarian bus companies. When units went through the onward movement phase of RSOI, the personnel were moved from Hungary to Croatia via commercial bus. Once the bus reached its destination in Croatia, the personnel would dismount and then link up with their respective combat or tactical vehicle to drive into Bosnia.

Using all modes of transportation, with the exception of sea movement, was the key to the successful deployment of Task Force Eagle. Figure 8 shows the accomplishments of the various modes of the deployment and the overall success of the Operation Joint Endeavor deployment.

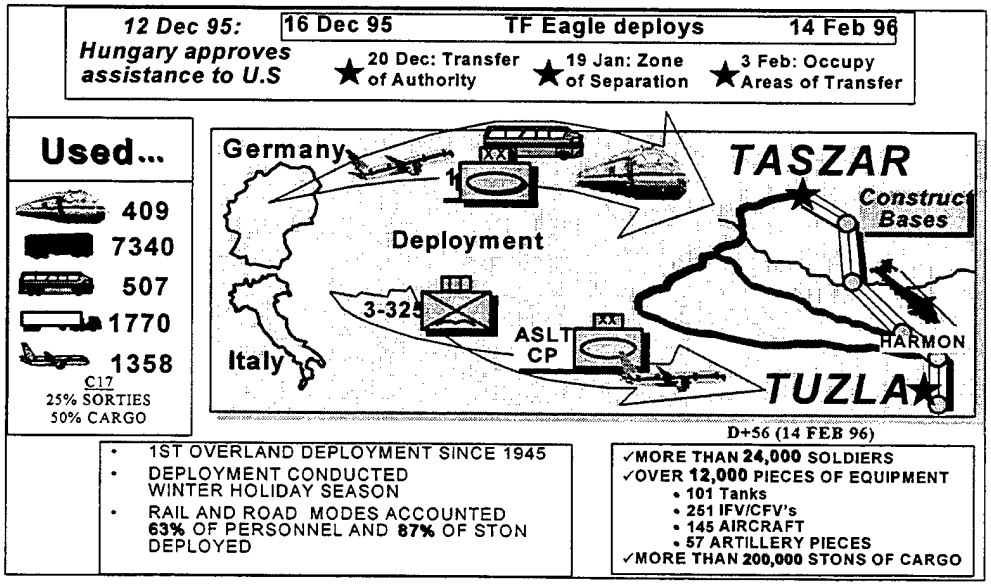

Figure 8. OJE Deployment Mode Accomplishments [From USAREUR AAR Volume I]

3. Deployment Routes

a. Germany to Hungary/Croatia

From Germany, equipment and personnel being transported followed many different routes, depending on what mode of transportation was being used. The easiest routes to describe are the air deployment routes. Aircraft departed either Rhein-Main or Ramstein and flew to either Taszar Air Base in Hungary or Tuzla Air Base in Bosnia. Since very few people were deploying directly into Bosnia, the most heavily traveled routes were between the two APOE and Taszar, Hungary. Another air deployment route that was discussed, but was not heavily used was Aviano Air Base, Italy to Tuzla, Bosnia. This was the route that the 3-325 Airborne Infantry used, but because very few units deployed from Italy, the route was not heavily traveled. Two reserve MCTs, the 793rd and the 663rd, would also deploy from Italy, but they deployed by commercial bus from Vicenza, through Austria, to Taszar, Hungary (Swartz, 1997). The final air deployment route was established later in the deployment and that was a link between Taszar and Tuzla. This was put in place to get high priority personnel quickly from Hungary to Bosnia.

On the commercial truck, bus and military convoy side, again, different routes were employed. The commercial truckers, who were not bound by a specific route, would usually follow the route that would get them into Hungary the fastest. Because commercial trucks were paid by the load, German trucking companies wanted to get the cargo to Hungary as fast as possible and get the drivers back to haul another load. The faster that happened, the more money the company would make. Commercial buses and military convoys essentially followed the same deployment route, depending on where they originated. The military convoys and buses departing from the

Kaiserslautern, Heidelberg, or Mannheim areas would follow German Autobahn 6 until it connected with Autobahn 3 around Nuremberg.

Convoys and buses originating from Wiesbaden, Hanau, Darmstadt, or Bad Kreuznach had more of a direct access to Autobahn 3 and would follow that road the entire time. Once on Autobahn 3, the convoys would essentially take it all the way through Austria into Hungary. Once in Hungary the drivers would follow a series of local roads south, around Lake Balaton, until they reached Kaposvar and Taszar, Hungary. However, later in the deployment and into the sustainment phase, these convoys would follow Autobahn 3 all the way to Budapest, Hungary and then travel local roads to the ISB. This enabled the convoys to take advantage of the better roads in and around Budapest (Sundin Interview, 1996).

Because of the distance that military convoys had to travel, almost 1,000 kilometers, there was no possible way for the drivers to complete the journey in one day. Military regulations limit the number of hours a driver can drive in one day and dictate to that driver the amount of rest they must get between driving segments. Therefore the 37th Transportation Command (TRANSCOM) designed two convoy support centers (CSC) to support overnight stops by the convoy. These CSCs were large enough to support up to 150 soldiers and 50 vehicles. The CSCs were located at the Prince Leopold Kaserne, a German Army post, in Regensberg, Germany and the Benedek Kaserne, an Austrian Army post, in Bruck, Austria (Kubiszewski, 1997). Soldiers from the 28th Transportation Battalion, a subordinate unit of the 37th TRANSCOM operated the CSCs with assistance from local sources. The CSCs were tremendously successful and the concept was the main reason there were no major accidents during convoy deployments.

The rail deployment for Operation Joint Endeavor was a little more complicated. Because Austria is a non-NATO country, there was some initial resistance from the Austrian government to allow U.S. equipment to flow through. So the initial trains deploying from Germany were routed through the Czech Republic, Slovakia and then into Hungary. This route was much longer than the more direct route through Austria, and also imposed certain restrictions on the trains, including train length (450 meters) and weight (1300 metric tons), tiedowns instead of chock block for securing vehicles, and type of locomotive used (Schneider Interview, 1996). About a week into the deployment, Austria finally consented to allow U.S. forces and equipment to transit their country. Once Austria allowed rail movement, it made it easier to divert trains to Slovanski Brod and Zupanje, Croatia in order to alleviate the congestion in Hungary. Deploying trains were also diverted from Hungary in order to move the LOC opening package directly into Croatia.

b. Hungary to Croatia (Onward Movement)

The route for the onward movement portion of the RSOI process was a twelve-hour main supply route (MSR) from Kaposvar to Zupanje. The route took the daily convoys from Kaposvar due west before the road turned due south. A short time later, the convoy would arrive at the town of Barcs, where they would cross the border between Hungary and Croatia. Shortly after crossing the border, the convoy would come to its first convoy support center. This CSC was operated and supported by soldiers from the 51st Maintenance Battalion and provided some basic necessities to the road-weary soldiers. After departing from the CSC, the convoy continued south to the town of Kutina, Croatia. At Kutina, the convoy turned east and proceeded on an autobahn-type road. This enabled the convoys to travel at higher rates of speed in order to reach

Slovanski Brod and Zupanje faster (Herson, 1996). The convoy vehicles would remain overnight at the TAA and then return to Kaposvar the next day, making every onward movement iteration a two-day process.

4. Intermediate Staging Base Operations (Hungary)

The picture in Figure 9 is a comprehensive portrayal of the ISB in Kaposvar-Taszar, Hungary. It shows all the components that made this area an easy selection to serve as the ISB: C-5 capable all weather airfield, four active railheads, an ample road network benefiting both deployers and the onward movement part of RSOI, and an economic infrastructure to support the requirements of this type of operation. In addition, Kaposvar-Taszar was relatively close (only 310 kilometers) to Tuzla, Bosnia, making it an excellent consolidation point for the deployment (USAREUR AAR, Volume 1, p. 121).

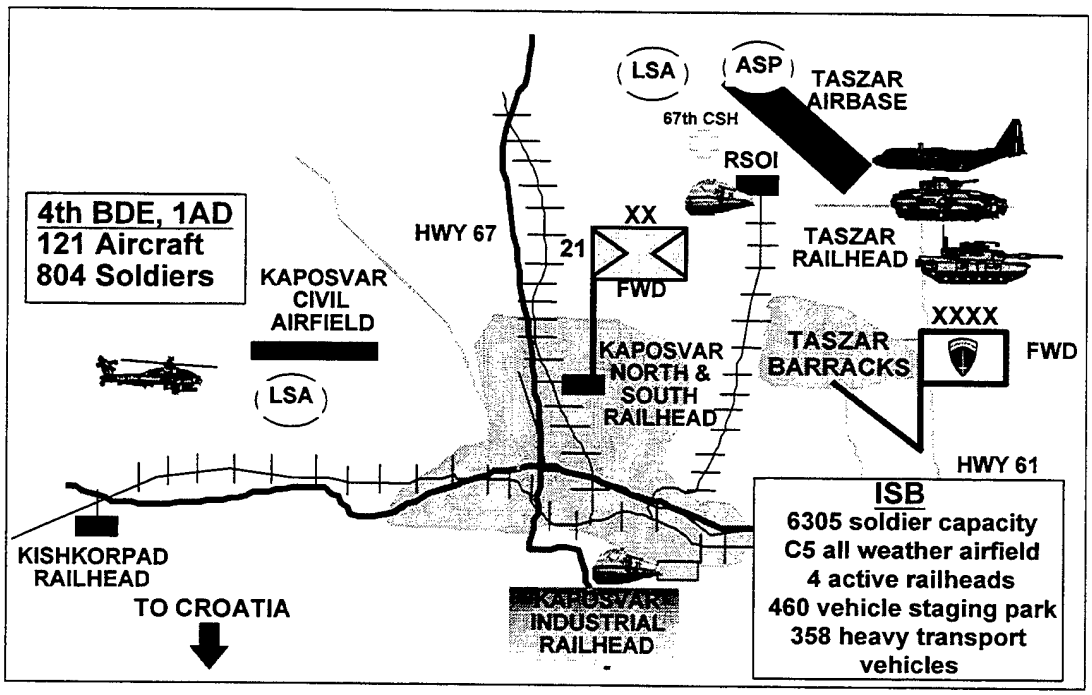

Figure 9. The ISB Transportation Infrastructure [From USAREUR AAR Volume I]

The concept for the ISB was that units would deploy from Germany through one of the nodes located in Kaposvar or Taszar, Hungary, go through a reception and staging process conducted by the 29th Support Group, commanded by Colonel John Deyermond, and then move to the Tactical Assembly Area in Zupanje, Croatia. The ISB was to synchronize the deployment by merging people, equipment and supplies together before their onward movement to Croatia and integration into the TFE AO.

The ISB was also the location of the United States National Support Element. The NSE consisted of USAREUR (Forward) and the 21st TAACOM (Forward), which was made up mostly of personnel from the 3rd COSCOM, performing both operation and corps level logistics functions. Additional units attached to USAREUR (Forward) and 21st TAACOM (Forward) during the deployment were the 19th Corps Material Management Center (CMMC) a COSCOM unit; the 200th Theater Army Material Management Center (TAMMC), a TAACOM unit; the 27th Movement Control Battalion, a COSCOM unit; and the 28th Transportation Battalion, a TAACOM unit, among many others. Table 7 shows the composition of the NSE, broken down by unit and numbers of personnel. By looking at the types of units, the table also shows the myriad of functions that the units in the NSE performed.

USAREUR NSE Forces	
USAREUR (Forward) Headquarters	328 personnel
21st TAACOM (Forward) Headquarters	220 personnel
200th TAMMC/19th MMC/27th Trans Bn/Higway Reg	136 personnel
266th Finance Command	22 personnel
29th ASG	165 personnel
51st Ordnance Battalion	415 personnel

95th MP Battalion	260 personnel
28th Transportation Battalion	560 personnel
191st Ordnance Battalion	360 personnel
330th Rear Tactical Operations Center (RTOC)	30 personnel
Civil Affairs	22 personnel
16th CSG (77th Maint Co/515th Trans Co/26th QM Co	591 personnel
1st Personnel Command (PERSCOM)	158 personnel
30th Medical Brigade	467 personnel
7th Signal Brigade	365 personnel
TFE Quartering Parties	100 personnel
Total Strength: 4,199	

Table 7. USAREUR NSE Units and Strengths [After USARUER AAR Volume II]

But the greatest responsibility of the ISB was to serve as the "funnel" to transfer deploying units out of the deployment mode and into a more operational mode. The 29th Support Group would accomplish that mission.

In Hungary, the 29th Support Group was responsible for many tasks, including the personnel reception station, the life support area for housing transient troops, the container handling area, three separate railheads, an airfield, direct support supply and maintenance activities and the staging area (Chroman, 1996). The railheads, reception station and staging areas were critical to the deployment's success.

Upon arrival in the ISB, the 29th Support Group assumed operations immediately. Because the deployment had already started and movement priorities had shifted, the units were simultaneously operating and trying to establish their operations. The four railheads in the ISB were able to accommodate between six to eight trains per day and the most immediate impact was felt at the railheads, where trains laden with unit equipment

were already starting to back up. However, the unit was able to shift resources toward the railhead and alleviate some of the initial backup. Once units arrived, their vehicles were immediately taken to the staging area, which once was an aircraft runway at this former Hungarian MIG base in Taszar.

Once in the staging area, unit personnel began to prepare those vehicles for onward movement. The 29th Support Group's subordinate maintenance, supply and ammunition units fueled, fixed, armed and supplied the personnel and equipment in every way possible to prepare them for movement. Unit movement officers would submit requests for external lift to the 30th MCT, located at the airfield, if they had anything that they could not organically move. The MCT would then in turn task either the 28th Transportation Battalion or the 181st Transportation Battalion to provide assets to move the unit. The primary vehicles committed to assist the deployment of TFE were M915 tractor and M872-40 foot trailer combinations for carrying containers or light tracked vehicles, the M1074 Palletized Load System (PLS) tractor with M1076 PLS trailer for carrying containers or light vehicles and the M1070 Heavy Equipment Transporter (HET) with M1000 trailer for carrying M1A1 tanks and M2A2 Bradley Fighting Vehicles. In addition, the 181st Transportation Battalion's 515th Transportation Company's 5,000-gallon fuel tankers were heavily used to refuel TFE's equipment.

USAREUR (Forward) prioritized the call forward of units from the ISB, based on the needs of the TFE commander. Daily call forward briefings were held to identify requirements and notify units that they had been called forward. Once the unit had been called forward to the TAA, they would be restaged in convoy order and upload their external lifts on trucks from the two transportation battalions. The evening prior to

departure, convoy commanders were briefed and then units went through a final certification and validation process to ensure that everything was on hand and accounted for. The next morning, starting at 0400, the first convoys would depart Taszar enroute to Croatia. One convoy would depart every hour for the next seven hours. On a normal day, seven convoys departed the ISB and the seven convoys that departed the previous day returned. This process continued in exactly the same fashion from 16 December 1995 until the deployment was complete on 14 February 1996.

Another aspect of the ISB was the freight forwarding area (FFA), which occupied a piece of runway, much like the staging area did. The FFA was established in the middle of the deployment period to accommodate the increasing amount of high priority supplies that were being pushed into theater. When an Air Force aircraft would land at Taszar with cargo, the FFA was responsible for discharging the cargo and staging it for onward movement or distribution within the ISB. Once the FFA had the cargo, they would coordinate with the MCT for assets to deliver the cargo to the customer unit. It was a much more efficient way to handle this cargo and alleviated some of the pressure from the 29th Support Group. Eventually, a reserve component MCT was deployed from Italy to control the FFA.

5. Tactical Assembly Area Operations (Croatia)

Doctrine defines the TAA as an area that is generally out of the reach of light artillery and where units make final preparations (pre-combat checks and inspections) and rest, prior to moving to the line of departure. In the case of Operation Joint Endeavor, the TAA was more than just a stopping point, it was a place where units in the 1st Armored Division assembled their combat power prior to crossing the Sava River. It

housed and organized deploying forces for the road march to Tuzla, Bosnia, some 50 kilometers away.

The TAA was located in Zupanje, Croatia and was essentially nothing more than a huge open field where units parked their vehicles. The area was in the vicinity of the pontoon bridge that the engineers assembled to allow TFE units to cross into Bosnia. There were essentially two ways to get to the TAA, the first being convoy from the ISB and the second being train from Germany. Although the original plan intended on everything flowing through Hungary, this proved not to be the case. Because of the requirement to compress deployment timelines, USAREUR had to rush to get the LOC-opening force and its support slice to Croatia. Since there was already a backlog developing in the deployment, these forces were moved directly to the TAA.

If the unit arrived in the TAA by convoy, all wheeled vehicles were driven by unit personnel, while tracked vehicles were transported using the heavy equipment transporters for M1A1 tanks and other trailers for lighter tracked vehicles. Personnel unable to ride in the military vehicles were forced to deploy to the TAA in commercial buses. At the TAA, all vehicles were discharged and unit personnel began making the final inspections to prepare to cross the Sava. Personnel and equipment accountability was paramount in this environment and was part of the validation necessary to cross the bridge. Once validated, units prepared their vehicles for the convoy into Bosnia.

The rail system in the TAA included two very small railheads, one each at Slovanski Brod and Zupanje. The Zupanje railhead was capable of unloading only one train at a time. The whole train could not be brought into the discharge site, so the train had to be broken into segments in order to be unloaded. The railhead was also on a one-

way spur, which meant that after the train segment was offloaded, the whole operation had to cease in order to back the train out and bring in a new one. The Slovanski Brod railhead was a little better and had a capability to discharge vehicles via a side ramp, but initially, neither railhead had a ramp capable of downloading a tank. Eventually, Zupanje was able to discharge one to two trains per day and Slovanski Brod was able to discharge three trains per day.

One of the earliest units to arrive in the TAA was the 16th Corps Support Group, one of the logistical support units attached to the 1st Armored Division. However, because of congestion in the ISB, the CSG was sent directly to Camp Harmon. The CSG had a transportation platoon attached from the 51st Transportation Company, 181st Transportation Battalion. That platoon was extremely busy repositioning supplies for the engineers at Zupanje assembling the bridge. In addition, trucks from the 70th Transportation Company and the 377th Transportation Company were moving supplies and equipment on a 12-hour convoy along the MSR from the ISB to the engineers at Zupanje (Herson, 1996). This would prove to be a very difficult and trying time for the transportation companies.

6. Crossing the Sava and Occupying the Base Camps

The peace agreement signed in Paris, dictated an immediate combat presence in Bosnia. USAREUR plans had assumed at least a two-week window after the agreementbefore the first portions of Task Force Eagle began deploying. This particular portion of the General Framework Agreement for Peace (GFAP) surprised everyone and cut the two-week lead-time to about four days. This cut caused serious problems with the steady deliberate flow USAREUR wanted. USAREUR had to make a decision on

whether to deploy the RSOI and LOC opening packages or to deploy the initial portion of Task Force Eagle. USAREUR decided to deploy portions of both and to use the railheads in Zupanje and Slavonski Brod, Croatia to receive units.

The first element to reach Zupanje, the proposed site of the pontoon bridge, was the 502nd Engineer Company. The 1st Battalion, 1st Cavalry arrived on 19 December and established Staging Area (SA) Harmon, later to be renamed TAA Harmon. Additional engineers flowed directly into Zupanje and Slavonski Brod and on 22 December, the engineers began ramp construction for the pontoon bridge across the Sava River. As preparations neared completion, unanticipated flooding on 28 December 1995 destroyed much of the ramp work for the bridge (V Corps AAR, 1997). Because the flood significantly increased the high water mark of the Sava River, the engineers were caught short without enough bridging material. This forced the acceleration of another bridge company, further complicating the change in the flow plan (Bryant Interview, 1996). However, because of the diligence of the engineers and a quick support response from the logisticians in the ISB, the operation was quickly returned to its previous state and the pontoon bridge across the Sava River was completed on 31 December 1995. The 1-1 Cavalry crossed into Bosnia on the same day and by the end of the day, over 180 vehicles had crossed the bridge (Collins and Koons, 1997).

Because the flow was initially so compressed, another deployment decision that needed to be made was the priority of the Logistics Civil Augmentation Program (LOGCAP) and Force Provider supplies. These supplies contained all the materials necessary to construct the base camps where our combat units would be living for a year. Each LOGCAP and Force Provider convoy crossing the river would mean that one

convoy of combat vehicles was not crossing. An attempt was made to balance the flow across the Sava as much as possible, but base camps were not completed by the time most combat units rumbled in.

The 2nd Brigade Combat Team began crossing the river on 4 January 1996 and was completely closed in Bosnia on 24 January. The 1st BCT began crossing the river immediately following the 1-1 Cavalry. The 1st BCT closed in Bosnia on 20 January. A second pontoon bridge across the Sava was completed on 17 January, making two-way traffic possible and decreasing the congestion at the main bridge site. However, despite force closure in late January, it would be almost two months until all of the Task Force Eagle base camps were complete (V Corps AAR, 1997).

C. SUSTAINMENT PERIOD (20 MARCH – 20 DECEMBER 1996)

As indicated, full sustainment in the AO was reached by 20 March 1996. The flow of all classes of supply extended from base camps in Bosnia, through Germany and back to CONUS. A system was in place for requisitioning and moving materials on a high priority basis, depending on the class of supply. Palletized and containerized material from CONUS flowed into Ramstein Air Base and was transported via air or convoy into Hungary, Croatia or Bosnia. Distribution between the ISB and Bosnia was accomplished using either military truck or the CH-47 Chinook helicopter.

All classes of supply had reached a steady state consumption level and systems were in place for the resupply of all logistics functions. Food and water reached its ration cycle goal in Bosnia on D+95 because of a shortage of refrigeration units. The LOGCAP contractor, Brown and Root Services Company (BRSC) operated all the dining facilities in each area with augmentation from local nationals. As previously mentioned, a tender

was established with a German transportation/distributor named ESKO to deliver rations from Germany. Bottled water was initially supplied, but was changed to bagged water from a local water plant at considerable savings. (USAREUR AAR, 1997, 129)

The system of refineries in Hungary and Croatia provided all the necessary fuel and POL to the deployed force. The fuel consumption level had dropped from a high of 110,000 gallons per day during the deployment to a steady state usage of about 32,000 gallons per day (USAREUR AAR, 1997, 127). Ammunition was located in ammunition holding areas (AHA) in the ISB and TFE AO. Very few difficulties with ammunition were encountered and the redeployment plan for handling ammunition was comprehensive.

A distribution system using total asset visibility (TAV) and intransit visibility (ITV) was in place using radio frequency (RF) tags to track cargo. Convoys were incorporating the Defense Transportation Tracking System (DTRACS or DTTS) into their movements, enabling them to communicate with a dispatcher and also providing that dispatcher with up to the minute location information (Kubiszewski, 1997, p. 6).

Finally, the overall equipment readiness posture in OJE was above the Army average. This is in large part due to systems that were in place to ensure the highest level of mission capability. There were Corps Material Management Center personnel in both the ISB and TFE, Army Material Command had a logistics support element (LSE) in the ISB and support personnel in Bosnia and the Defense Logistics Agency (DLA) were providing assistance in both Hungary and Bosnia.

D. REDEPLOYMENT PLANNING

Almost as soon as the deployment was completed in February 1996, USAREUR (Forward) began planning for the redeployment while the lessons of the deployment were still fresh in everyone's minds. LTG Abrams was adamant that the redeployment would not be a repeat of the deployment, and in order to accomplish that, the staff had to start planning early. In preparing the plan to redeploy forces from Bosnia, Croatia and Hungary, the staff took into account lessons from the deployment as well as lessons from the deployment to and redeployment from Operation Desert Storm. Because LTG Abrams and many of his staff were Desert Storm veterans, they knew many of the pitfalls that befell the redeploying forces from that operation. Chief among those was the length of time the unit took to reconstitute upon return to home station. LTG Abrams' vision was for the 1st Armored Division and other deployed units to be essentially combat ready when they returned to Germany. In order to accomplish that goal, the redeployment had to be disciplined, deliberate, detailed, logistically supported, capable of accounting for equipment and focused on maintaining unit integrity (USAREUR AAR Volume I, 1997, p. 174). The graphic in Figure 7 below depicts USAREUR's redeployment plan.

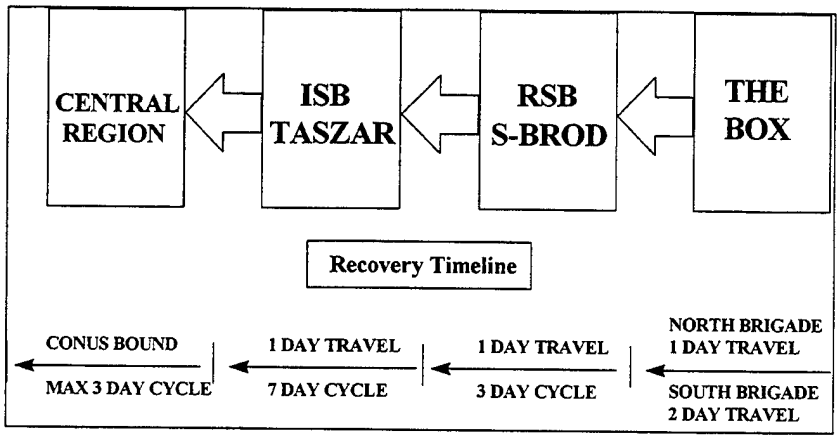

Figure 10. Redeployment Phases and Timeline [From USAREUR AAR Volume II]

During Operation Joint Endeavor, Bosnia was referred to as "the box," a term that is used to refer to the maneuver area at an Army major training center. During redeployment, TFE units would pack all supplies, equipment and material not required by the follow-on force and would prepare to depart their base camps by convoy enroute to Slavonski Brod, Croatia. Prior to departure, the Unit Movement Officers from each company would input their level four TPFDD data into a TC-ACCIS computer located at the local movement control team. This would enable the unit's information to eventually transfer to JOPES in order for a redeployment TPFDD to be built.

At the start of phase two, units would convoy to Slavonski Brod, which for the purpose of the redeployment was called the Redeployment Staging Base (RSB). USAREUR planned three days of unit processing in the RSB and activities included everything from vehicle maintenance and refueling to returning bulk supplies and non-unit equipment to Central Region. In addition, an advance party would move from the RSB to the ISB in order to update its TPFDD data at the 30th MCT in Taszar, Hungary.

Upon completing their RSB processing, unit personnel would load commercial buses or organic unit vehicles for the trek to the ISB. Phase three of the redeployment would take place in the ISB and would last for seven days. The ISB process focused on unit and individual reorganization and refitting. Tasks include vehicle maintenance and washing, excess equipment turn-in and medical and dental screenings. In addition to this processing, combat units went to Taborfalva Training Area in Hungary for gunnery (USAREUR AAR Volume I, 1997, p. 176). Once all these activities were completed, unit equipment was rail loaded for movement to Germany and unit personnel boarded commercial buses for their redeployment to home station.

The final redeployment phase, phase four was accomplished upon return to Germany. This phase was basically an extension of the activities conducted in the ISB and focused on reconstituting combat capabilities. Everything that the unit had shipped from either the RSB or ISB was received and brought to the unit's home station. Additional vehicle maintenance and medical screenings were conducted. In addition, soldiers received items like their personal belongings and POVs, which had been stored prior to the deployment.

Task Force Eagle began redeployment on 7 October 1996, nearly ten months after it had deployed. The redeployment would take almost two months, until 1 December 1996, when last elements of the 1st Armored Division left Bosnia and returned to Germany. The redeployment process developed by USAREUR was very effective. Units returned to home station without facing all the normal problems associated with redeploying from a major operation. The functions normally facing unit personnel upon their return from deployment were accomplished in either the RSB or ISB. The units were essentially "fit to fight" immediately upon their return to Germany.

III. ANALYSIS OF ISSUES ARISING DURING THE DEPLOYMENT TO OPERATION JOINT ENDEAVOR

The consensus about the effectiveness of the Operation Joint Endeavor deployment and logistics operations is (1) they were generally successful and (2) U.S. forces were fairly well prepared to conduct them. As in all military operations of this scale, however, some significant problems did arise. This chapter explores the major challenges confronted by units during the deployment. The analysis will cover difficulties encountered in Germany, during movement, at the ISB and in the TAA. Through this analysis, a more detailed assessment of operational effectiveness can be made.

A. CENTRAL REGION ISSUES

Even in the best-planned operations, challenges inevitably arise before the operation even starts. The same is true for Operation Joint Endeavor. As a result of the end of the Cold War, before planning for Operation Joint Endeavor commenced, military decision makers decided to reduce the size of the forward deployed force. Because of this decision, transportation and logistics capabilities were significantly cut. Then, during the planning phase, USAREUR and V Corps planners encountered difficulties that would affect the initial phase of the operation. Finally, the execution of the deployment was completely changed when the GFAP was signed and military commanders were informed for the first time that their timeline had been significantly compressed.

1. Transportation Personnel and Equipment Availability

To say the least, the transportation capability in Germany used to be robust. However, because the Cold War ended and military policymakers decided to reduce the

U.S. Army's forward presence around the world, transportation capability in Germany took a serious blow. Several examples are listed below. It is also interesting to note that these units did not exist in the Reserve Component structure in Europe, but did exist in the Reserve and the Active Components in the United States. However, there were no RC transportation or movement control units from the United States activated to support this mission, nor were additional AC transportation companies deployed to assist in this deployment.

a. 181st Transportation Battalion

The 181st Trans Battalion went from six line companies in 1990, all Authorized Level of Organization (ALO)-1 to three companies in 1995, one at ALO-2, one at ALO-3 and one at ALO-4 (Herson, 1996). ALO relates to the ratio of a unit's authorized manpower spaces to its full table of organization and equipment (TOE) spaces. A unit is authorized to requisition personnel based on their ALO. ALO 1 means a unit has 100% of its TOE spaces, ALO-2 is 90%, ALO-3 is 80% and ALO-4, less than 80%. This illuminates the significant reduction, not only in the number of units, but also in the number of personnel. This considerable reduction in personnel had a direct impact on the battalion's ability to execute an ambitious force projection and sustainment mission such as OJE. This was further exacerbated by the fact that each company had 100% of its authorized equipment, even though there were insufficient personnel to operate and maintain all of it. In addition, the deploying transportation units did not receive additional personnel to bring them to ALO-1, as the combat units that were deploying to Bosnia did.

Another challenge to the transportation battalion presented itself on the equipment side of the equation. In October 1995, two of the companies in the battalion were being fielded with new equipment, the PLS to the 51st Transportation Company and the HET to the 377th Transportation Company. In addition to the fielding, the units were in the process of preparing their old equipment for turn-in. However, at the time the warning order was issued, each of the units had only received roughly 50% of their authorized vehicles. So the battalion received an accelerated fielding of the remainder of the equipment for the two companies. This caused problems with licensed operators, repair parts and maintenance support.

Because the unit had received such a late surge of new equipment, the companies did not have adequate time to train and license all assigned soldiers on the new equipment. This licensing was essentially done as on-the-job training during the unit's deployment convoy to Hungary. When the trucks broke down, it was difficult to obtain spare parts through the supply system. Because the trucks were new, no demand history had been established for critical parts and therefore, the Class IX support for the trucks was limited. The Class IX repair parts "push" package that existed was inadequate to support the vehicles given the pace of the missions. In addition, maintenance on the trucks was accomplished under warranty contract with European Support Contract Maintenance (ESCM) in Germany. Because this organization was made up of German civilians, the Hungarian Labor Ministry forbid them from coming to Hungary to support the 181st's maintenance needs (Herson, 1996). Therefore, the task of maintenance fell on the 51st Maintenance Battalion, which had neither experience nor tools to fix the new PLS and HET. This would cause problems throughout the deployment.

The receipt of additional equipment was the final problem that affected the 181st Transportation Battalion. Prior to the deployment, the 181st Transportation Battalion received additional M872-40 foot trailers, forty additional M967-5,000 gallon fuel tankers, 700 PLS flatracks, numerous twenty foot MILVANs, and fifty refrigerated vans from the Combat Equipment Group – Europe (CEGE) to supplement their mission (Herson, 1996). With its limited personnel resources, this additional equipment further degraded the battalion's ability to perform its mission.

b. 37th Transportation Command (TRANSCOM)

The 37th TRANSCOM, the theater's transporters, is the only active duty brigade theater truck transportation unit. Before the drawdown, the 37th consisted of three full strength American transportation battalions, the 28th, 53rd and 106th and a fully manned 6966th Civilian Support Center. However, in the drawdown, the 53rd and 106th battalions were deactivated and the 6966th was reduced by more than 1/3 (Kubiszewski, 1997). These reductions placed some serious roadblocks between the 37th TRANSCOM and mission accomplishment.

The 37th TRANSCOM is responsible for handling a large piece of the Central Region transportation support requirement. Before OJE, the battalion provided 320 trucks daily to support these missions (Kubiszewski, 1997), including delivering the mail and moving critical classes of supply throughout the region. In order to provide the required truck support for the deployment and continue Central Region support, the 37th TRANSCOM and its subordinate units were stretched very thin.

However, truck support was not the only support required from the 37th. In addition, the 21st TAACOM tasked the 37th as the Theater Executive Agent for RSOI

for units inbound from CONUS. Because of this tasking, the unit was forced to establish AACG and ATMCTs in order to support this mission. However, because of personnel shortages within the command, the ATMCT was only manned by ten soldiers instead of the 37 required by Modified Table of Organization and Equipment (MTOE) (V Corps AAR, 1997). This further stressed the capabilities of the TRANSCOM.

One final task for the already weary 37th was the preparation and placement of eight rough terrain container handlers (RTCH) in the theater of operations. Since this equipment was not assigned to any European unit, the TRANSCOM was forced to draw this equipment from CEGE and ship it to their designated locations. Once arriving, the 37th was required to assemble the RTCH and prepare it for use. However, there was also a shortage of RTCH operators, so the 37th was forced to deploy a team of RTCH instructors from the Transportation School at Ft. Eustis, Virginia.

Although the 37th TRANSCOM is essentially a truck transportation brigade, it is easy to see why additional missions were assigned to them. The 37th is a "transportation" unit, and no other force structure existed in Germany to support those additional missions. Those missions would challenge the limits of the 37th TRANSCOM, but through diligence and determination, all the missions were successfully accomplished.

c. Movement Control Structure

As the theater's movement control agency, 1st TMCA was responsible for coordinating and arranging common user land transportation, contracting for transportation support and providing force tracking during deployment. As an ALO-8 organization, the 1st TMCA was at 35% of its full time manning, resulting in difficulties

with becoming mission capable for an operation of this magnitude. The inadequate manning level left the TMCA critically short of MCTs and trained STACCS personnel, and there were no Reserve Component (RC) personnel augmenting the unit during the first several weeks of the deployment. The PSRC occurred on 8 December 1995 and two RC MCTs in Italy were activated on 11 December. However, the active duty staff shouldered a tremendous burden that only improved once the RC augmentation arrived. The surprising aspect of this whole situation is that there are no RC MCTs in the 7th Army Reserve Command (ARCOM), which is responsible for all RC units stationed in Europe.

Another movement control area that suffered during the deployment was that of movement control and transportation system knowledge. One of the first units to deploy from Wiesbaden was the 27th Transportation Battalion, which was the V Corps Movement Control Center (CMCC), and one of only two active duty Movement Control Battalions in Germany, the other being the 39th Transportation Battalion, which was subordinate to the 1st TMCA. Once the 27th Transportation Battalion, with their two subordinate MCTs, the 15th and 30th, deployed, the entire function of movement control support for the two active duty divisions in Germany was suddenly thrust upon the TMCA. This, coupled with the deployment and TMCA's personnel shortage, left a gaping void in the movement control capabilities of the theater.

2. Plans and Preparation

USAREUR faced many challenges during the planning of Operation Joint Endeavor. Some of the difficulties have already been discussed in Chapter 2, but warrant amplification because of the impact that they had on the execution of the operation.

These difficulties included the uncertain political environment surrounding the peace talks, the information flow between headquarters and the compressed time line that forced the planning staff into crisis action planning.

The other major problem encountered during the planning phase was the inability to conduct reconnaissance in the AOR. This would limit the information available to planners, and would affect decisions made about onward movement routes, base camp locations and infrastructure conditions. Units did not even become aware of these problems until after the deployment had started and someone was physically on the ground. In one instance, the planned route for the onward movement convoy from Hungary to Croatia had to be changed because a bridge on the route was not capable of handling the weight of a HET carrying an M1A1 tank. So the route had to be changed at the last minute. Fortunately another route was found and no backlog developed during the onward movement phase of RSOI. The second problem was with base camp locations and will be discussed under TAA/Bosnia issues. Finally, the infrastructure in these countries was severely limited. Very little paved area for parking vehicles, very poor roads, poor railheads and inadequate phone and power lines were all problems that could have been identified and solved early, but because there were no recons done until late in the planning, many of these problems had to be solved during execution.

a. TPFDD

On 4 December 1995, EUCOM issued an execution order to USAREUR stating that the JOPES would be used so that the JCS could monitor the deployment (Akard, 1997). JOPES is a strategic automated deployment system that serves as a global command and control system, a strategic force tracking system, and a management tool.

A valid JOPES TPFDD is the baseline to effectively coordinate, manage, direct, and execute deployment. However, the use of JOPES presented a problem for some key commanders in Operation Joint Endeavor, including LTG Abrams of V Corps and MG Wright of the 21st TAACOM. These commanders felt that since the deployment was over land and that no strategic air or sealift was being used; the deployment to Bosnia was an operational deployment and not a strategic one (U.S. Peacekeeping Institute, 1996). Therefore, using JOPES was believed to be inefficient for planning this deployment.

In addition, USAREUR had conducted two deployment exercises and practiced the use of STACCS, not JOPES, as its primary means of tracking and controlling the deployment. Because of this training, the USAREUR, 21st TAACOM and 1st TMCA commanders were committed to the use of STACCS. STACCS is essentially a stand-alone, operational system for theater level command and control. Because of that limitation, this system would not provide the deployment visibility that the JCS desired.

There were many other factors that contributed to the resistance to use JOPES. The first was that STACCS did not mesh well with JOPES, due to the inability to upload data automatically from STACCS to JOPES. Second, JOPES worked well for deliberate planning and strategic movements, but was less useful when other than strategic lift was used. Along those same lines, JOPES also did not seem to have the flexibility to adjust the operational plan based on deployment capacity or throughput variables. In the case of OJE, so many environmental and operational changes occurred that our entire deployment plan had to be revised in execution. The third factor causing resistance was that the TC-ACCIS, which feeds level four data into JOPES for the

creation of the TPFDD, was not used for this deployment (Sundin Interview, 1996). TC-ACCIS was not used because it was very time-consuming to enter the level four data into the system, and due to the compressed time lines, the TAACOM determined that the use of TC-ACCIS was not practical. Therefore, it was nearly impossible for JOPES to produce an accurate TPFDD for deployment. In fact, when the deployment started, there was no validated TPFDD with which to execute the deployment.

What did exist at the beginning of the deployment was an incomplete TPFDD and the TMCA movement plan, which was constructed in the form of a Microsoft Excel spreadsheet called TMCA.XLS (Hansen Interview, 1996). This was primarily for tracking the rail deployment and was built using level four data taken off the STANAGs. However, as more changes crept into the deployment, the TMCA spreadsheet became no more useful than the incomplete TPFDD. Once these documents became unusable, the deployment was in chaos, causing backlogs at railheads in Germany and Hungary. There was no accurate movement priority, and units were rail loaded and deployed based on their missions. This situation occurred from the time that USAREUR was notified until the time the first forces flowed into Hungary to establish a support base and then the initial entry forces, to include the bridging operations. Transportation assets, particularly air assets, were being wasted, because USTRANSCOM was not in the planning loop, because there was no accurate TPFDD. Because JOPES was not used, USTRANSCOM could not allocate airlift needs against valid requirements. The whole system was not working and needed to be fixed immediately.

By the time another execution order was issued on 14 December 1995 by EUCOM, USAREUR had attempted to take control of the problem. The TPFDD had been built, but not in accordance with doctrine. Rather, the TPFDD was built by multiple manual entries of data at different locations and by the efforts of Mr. Bernie Oliphant who has essentially developed the TPFDD from scratch (Sundin Interview, 1996). That TPFDD was used to schedule buses, commercial moves, airlift, rail and convoys, so it was quite comprehensive.

At the same time, the USAREUR Movement Board (UMB) was formed to give USAREUR a deployment management capability. Operating at USAREUR Headquarters, the UMB identified and resolved deployment priorities, problems, and issues. Daily coordination with USEUCOM, USAREUR (Forward), and the USAREUR deployment community centralized deployment management. These changes improved USAREUR's capability to manage and execute the deployment (USAREUR AAR Volume I, 1997, p. 172).

b. Unit Movement/Deployment Training

Although USAREUR conducted two deployment exercises, those exercises were focused on staff processes for the deployment. One of the most basic aspects of a deployment would haunt USAREUR and it was due to a lack of training.

Rail loading was a challenge for many units deploying because of their unfamiliarity with rail loading procedures. V Corps units had extensive experience with rail loading of tracked vehicles, because that was the normal method for transporting armored fighting vehicles from home stations to exercise areas. A unit's wheeled vehicles, however, normally convoyed from home station. Therefore, while units

understood how to load tanks and Bradley Fighting Vehicles (BFV), they had little or no experience with the correct procedures for loading and tying down wheeled vehicles. Unfortunately, some units did not know they lacked the proficiency until they arrived at the railhead. By that time it was too late.

Additional problems were encountered by some medical and signal units, which did not have significant experience with deploying. USAREUR Regulations require that each unit have a trained unit movement officer (UMO), which is normally an additional duty for a lieutenant in a unit. Because of competing demands with other additional duties and a traditional lack of deployments, many UMOs neglected their company's unit movement plans. Plus, units were focused on other training like mine awareness and preventing cold weather injuries, so that again, the rail loading training suffered. The lack of adequate movement plans was demonstrated in the first deployment exercise, DEPLOYEX, and had improved by DEPEX II; however, the basics of tying down a vehicle on a rail car had still not been practiced.

As previously mentioned, USAREUR used forms prescribed under STANAGs to request rail cars for train movements and most units with tracked vehicles were familiar with how to fill out a STANAG form and what information is required. However, with the deployment to Operation Joint Endeavor, units that had never seen a STANAG form were suddenly required to fill one out. This led to many problems including units submitting the form with the destination marked "unknown." In addition, since Germany uses the metric system, measurements submitted on the STANAG form must be in metric measurements. However, since units had never received training on how to properly fill out a STANAG form, measurements were submitted in feet, inches

and short tons. In this situation, with a shortage of rail cars and weight restrictions in the Czech Republic and Hungary, lack of accurate information caused problems (Schneider Interview, 1996).

ASGs and BSBs, acting as "power projection units," were able to alleviate some of the problems caused by lack of rail training. In most BSBs, the team at the railhead would load and tie down a train, however, there was no Standard Operating Procedure (SOP) established to dictate how a BSB ran their railhead. Therefore, different BSBs conducted railhead operations differently, resulting in some railheads where units were required to tie down their vehicles and that was where the difficulties arose.

3. Deployment Execution

Although SHAPE, AFSOUTH, ARRC, EUCOM, USAREUR and V Corps Headquarters had all been planning for a deployment to Bosnia, not one of the upper-level headquarters had put together an adequate deployment system (Bryant Interview, 1996). Because of this fact, all of these headquarters had to attempt to synchronize their deployments during execution, which is hardly desirable. The problems with the execution of the deployment began as soon as the peace agreement was initialed in Ohio in November 1995.

When the GFAP was initialed on 21 November 1995, planners tentatively established G, C and D-Days. G-Day was set for 16 December, D-Day (the day IFOR would assume the mission from UNPROFOR) would be 20 December, and because NATO's enabling force needed fourteen days to deploy and USAREUR's RSOI force needed fourteen days to establish the ISB, C-Day would be fourteen days before G-Day, or 2 December. On 27 November, CINCUSAREUR authorized ordering trains, even

though it was potentially expensive to order trains and not use them, so that trains would be available on C-Day. On 29 November, USAREUR and its MSCs had a deployment conference to establish priorities for movement within each force package. Also at approximately the same time, the TMCA Movement Control Cell in Kaiserslautern had waded through the thousands of STANAGs that had been received and had constructed a comprehensive movement plan. This plan, along with the deployment priorities established, was essentially null and void once the peace agreement was signed.

Even though C-Day was supposed to be the day that USAREUR commenced its deployment, EUCOM and USAREUR could not issue deployment execution orders until they received authorization from political authorities. These orders finally came on 7 December, in essence compressing the fourteen-day enabling force deployment and RSOI establishment to seven days. This compression of the deployment meant that critical elements of the LOC-opening package and the RSOI package would not be operational when TFE units began deploying through the ISB and to SA Harmon. This support shortfall was exacerbated following the signing of the peace treaty, which resulted in the operational decision to push TF Eagle forces forward in the flow.

Strategic ambiguity plagued the operation from the start. It did not become clear until the actual signing of the peace agreement what types of forces would be needed to accomplish the mission. When the peace agreement called for the immediate entry of a sizeable combat force into Bosnia, deployment plans had to be reconfigured. As in previous intervention operations, this change deferred the planned movement of the essential logistics support personnel to the theater of operations, disrupting deployment

activities and once again, all the preparation notwithstanding, creating a logistics shortfall which took considerable time to correct (CALL OJE Initial Impressions, 1996, p. 9).

The main problem that developed was a result of the requirement for TFE to enforce the ZOS by D+30. Based on the planned flow, USAREUR realized that TFE would not be able to meet that requirement. Therefore, the initial entry force, the LOC-opening force and the RSOI force deployed simultaneously instead of sequentially as originally planned. Moving critical enabling and RSOI package units to later deployment dates compensated for changes to the deployment flow. As a result, by G-Day, less than 50% of the enabling force was in place and only 50% of the required RSOI force was in place (USAREUR AAR Volume I, 1997, p. 171). This caused insufficient support capability in both the ISB and SA Harmon.

USAREUR determined that one other event needed to occur before Task Force Eagle could occupy the ZOS by D+30. USAREUR believed that the bridge must be in place not later than 22 December instead of the original plan of having the bridge in place by 31 December. Because of this determination, more units involved in the bridging operation, the 535th Combat Support Company (CSC), more of the 16th Engineers, and the 501st FSB, which was providing some maintenance support, were pushed forward in the flow (Hansen Interview, 1996). And although the original plan had been to deploy everything through the ISB, these units were deployed directly into Croatia. This caused severe congestion and support problems in the TAA. In order to help with the problems at Harmon, the 16th Corps Support Group was diverted from the ISB to Slavonski Brod and helped to clear some of the backlog in Croatia. However, because a limited reception capability now existed in Slavonski Brod, USAREUR tried to play catch up by adding

additional trains, bypassing the ISB and going directly into Slavonski Brod. This overwhelmed the small railheads in Croatia and resulted in a larger backlog of trains. Although the push to get the bridge in the water by 22 December could have been successful, all the necessary units were not in place by that time. Because of the risk involved with the operation and because a significant number of TFE forces were still in the deployment backlog at the ISB, the bridge date was moved back. Ultimately, the bridge was completed on 31 December 1995, as originally scheduled. However, because of the significant changes to the deployment sequence, movement was disrupted for the first three weeks of the deployment.

The rail movements into Croatia caused another problem in that no material handling equipment (MHE) had flowed into the theater yet. Because of this, the 21st TAACOM quickly upgraded the already scheduled RTCHs and was able to have a RTCH delivered to Croatia in only five days. In the meantime, units used every technique possible to offload equipment, including using an M88 tank recovery vehicle as a makeshift crane.

There were a number of unforeseen problems early in the rail deployment, incidents that were beyond the control of the deploying forces, but that caused deployment delays nonetheless. One incident occurred in Hanau, Germany where a German anti-nuclear group decided that the beginning of December was a perfect time to protest a shipment of nuclear fuel elsewhere in Germany. The group managed to short out the main switching yards in Hanau, which stopped deployment trains for 48-hours (Bryant Interview, 1996). Another problem that arose was a rail strike in France that trapped 125 of 250 deep well rail cars (Schneider Interview, 1996). Since these cars were

required for movement of oversize loads, many of these pieces were removed from the rail plan and waited for another mode, either commercial or military truck to move the piece to the ISB.

These problems, coupled with the winter weather throughout the Balkans and significant rail backlogs, caused USAREUR to fall three days behind in their rail movement. Therefore, on 24 December 1995, LTG Abrams ordered a halt in all rail movement in order to realign the flow and clear the backlogs (V Corps AAR, 1997).

At around the same time, LTG Abrams wanted to begin using more air movement than originally planned. As mentioned, USAREUR had access to theater airlift in the form of C-130s provided by United States Air Forces Europe (USAFE). However, the C-130 could not accommodate some of the vehicles that LTG Abrams wanted to move. A decision was made to surge air movement for a couple of heavy companies with Bradley Fighting Vehicles, directly into Tuzla, and to move in other brigades, the second echelon brigades, principally signal, military intelligence, military police by air (Bryant Interview, 1996). However, this could not be done by C-130, so to assist, USTRANSCOM placed eleven C-17s under the operational control of EUCOM (Akard, 1997). As the weather allowed, EUCOM used all available aircraft and surged these units in. The whole 18th Military Police Brigade was flown in plus many of the military intelligence and signal assets and the entire division tactical operations center (TOC) (Hansen Interview, 1996). The C-17 was one of the heroes of this operation, and gave the Army a capability it had not had before, to airlift as quickly as this. The Air Force could get the C-17 in, turn it around quickly, and get it back for another trip. In addition, the C-17, which has a

capacity slightly smaller than the C-5, could go directly into Tuzla airfield, which the C-5 could not.

However, the increased use of strategic airlift caused two problems: 1) it necessitated the opening of a second APOE at Rhein Main (formerly only an APOD) and required additional Air Force and Army movement control capability and 2) it forced inefficient application of the process for validating movement requirements and scheduling strategic airlift against those requirements (USAREUR AAR Volume I, 1997, p.171). In the first case, the use of airlift meant the formation of an air terminal MCT for marshaling and chalking vehicles and in the second case, it resulted in lower payloads being moved until adequate application of the process began. However, the additional flexibility and speed created by using strategic lift compensated for the changes that it caused.

Over a period from about 29-30 December until 10 January, USAREUR was able to catch up. Strategic lift enabled USAREUR to deploy critical requirements into B-H in a timely manner to include the first delivery of an armored vehicle launched bridge (AVLB) by a C-17. During that time, the use of convoys increased, although that was originally discouraged for safety reasons because of the long convoy movement on snowy roads. USAREUR had to use both road and air more than initially planned, to supplement rail. There was also a significant increase in the number of commercial trucks used to move cargo during this time. The majority of cargo moved by commercial assets was from railheads where there was some mismatch between the type of cargo and the type of railcar, causing the cargo not to be loaded.

Other problems developed during the execution of the deployment. The call forward process also broke down resulting in numerous headquarters from Headquarters, USAREUR down to the lowest level initiating calls forward using several channels including operational, logistical, and transportation. The result was a backlog of units at railheads throughout Germany. Units deploying by air would go to Rhein-Main Air Base instead of Ramstein Air Base, causing them to lose a day in the flow. However, these other problems were minor in scope to the problems encountered at the outset of the deployment.

B. MOVEMENT ISSUES

As seen in the previous section, the execution of the deployment was very difficult because of the provisions of the GFAP and the compressed timeline under which USAREUR was operating. Because of that several key aspects of the deployment experienced difficulties during the deployment. In the following three sections, the thesis will describe some of the problems encountered.

1. Modes

The three primary modes for deploying the force to Operation Joint Endeavor were rail, air and surface moves. Each of these modes experienced some sort of problem during the deployment window. While each of these problems was significant, they were all solved in order to ensure a successful deployment

a. Rail

Because the plan for the deployment in support of Operation Joint Endeavor relied so heavily on the use of the European rail system, the majority of the difficulties that arose during the deployment were related to rail movement. The problems ranged from the shortage of railcars to the unknowns of the countries the trains

would travel through. There were also many unforeseen events relating to the rail movement that were out of USAREUR's control. The next several paragraphs deal with these issues.

There was a shortage of three types of railcars within the German rail system. The first shortage existed in dining cars, which were planned for by USAREUR, but were unavailable throughout the deployment. Because of this shortage, soldiers accompanying the train were forced to subsist on meals, ready to eat (MRE) and bottled water during the four-day trip to the ISB. Sleeping cars were requested for every train, however, they were also in short supply and therefore required USAREUR to frequently use coaches, which are less comfortable. In a case when a sleeping car was available, USAREUR could not count on using that car throughout the operation. This was because the sleeping cars were rotated through the system, which meant that after using a sleeping car, it would be ten to twelve days before it could be used again (Schneider Interview, 1996). The final area of shortage was the TWA cars used for carrying oversize and outsize equipment. The French rail strike was the main cause of this shortage, but the DB got cars from Switzerland, France, Hungary and Denmark to fill some of that void.

However, even with these additional rail cars, units could not give adequate advanced notice that these cars were necessary. Therefore, units would show up at railheads with oversize or outsize equipment and would end up leaving their equipment at the railhead because they had not given the DB sufficient time to obtain a TWA car. One specific incident involved the Main Support Battalion for the 1st Armored Division. The battalion had a Class II van, with all the unit's clothing, boots, gloves, TA-50 items, etc., which was an oversized piece of equipment. When they arrived at the

railhead, there were no deep well cars to accommodate that van, so the unit had to leave it at the railhead until it could be pulled to Hungary either commercially or by military lowboy trailer (Sundin Interview, 1996).

Other rail issues sprang from the time frame of the deployment. In Germany, their Christmas season starts early in December, which meant that many DB employees already had their leaves approved, causing worker shortages. In addition, because the DB had privatized in the early 1990s, many of the redundancies of a government-owned system no longer existed. Several of the railheads on U.S. installations were no longer manned, which created delays in ramp activation and BSB interface with rail personnel at certain railheads. Manning problems in the DB would take almost two weeks to solve.

Problems also arose with the number of railcars that the DB was able to provide at the beginning of the deployment. Army planners did not anticipate the amount of pressure being put on the German railroad. There were thirteen railheads operating at the same time during the first days of the deployment. Units were requesting a large number of rail cars and because the time line had been compressed, short notice requests were the norm. During the first two weeks of the deployment, transportation requests were usually not validated until the day prior to the move. This really stretched the Bundesbahn thin, as they apparently did not have the number of cars available to react to the volume of cars requested and the short notice with which they were requested.

Train scheduling by the DB also created some problems. Because military trains traditionally have a low priority, they had to compete with regularly scheduled Euro-City and Inter-City trains. In some locations, where the congestion is high, it is

difficult to push a large number of military trains through. Unfortunately for USAREUR, many of the units were located with congested areas in their deployment path. In addition, many BSBs were dependent on when empty cars could be staged as to how many trains they could load in a day. In Wiesbaden, railcars were spotted at 0700 and therefore, two trains per day could be loaded (Sundin Interview, 1996), whereas in Darmstadt, railcars were spotted no earlier than 1000 resulting in only one train per day (Schneider Interview, 1996).

The deployment time frame also caused problems in another way. December in Europe usually means ice and snow, which caused delays in trains. This was particularly true in Hungary and Croatia, where they were experiencing their worst winter in over 40 years. The weather not only affected the trains' transit, but also the train's loading and unloading. It served to lengthen the total amount of time it took to deploy a unit.

An issue that arose during the loading process at the railhead served to frustrate some rail loading operations, especially the first several times it occurred. The problem was that different wagonmeisters, the train masters in Germany, had different standards for securing vehicles on railcars. The differences were not significant, but there were certain nuances between wagonmeisters. The first time this situation arose, a unit had partially loaded and secured a train at the end of a day and then broke to finish the train the next day. When the unit arrived the next morning, a different wagonmeister was at the railhead. He was looking at the train and instructing BSB personnel to redo a significant portion of the tiedowns on the train. After that, the BSB and the unit would

tie down a single vehicle and then show the wagonmeister to get his approval. That alleviated any future problems with differences between wagonmeisters.

Finally, USAREUR was deploying by rail into an unknown area. This was one of the main reasons for congestion in the ISB. USAREUR thought it would only take two days to get to Hungary, so they continued to load and send trains under that assumption. Because the actual transit time was more like four days, there ended up being more trains in the system than it could handle. That situation resulted in backlogs in Hungary and stabling of trains in various locations in Hungary and Austria.

In addition, the tracks and engines in Eastern Europe are much like the tracks and engines were in Germany 60 years ago. Because of this, there was a limitation placed on the length and weight of trains going through the Czech Republic and Slovakia into Hungary. Trains were limited to 450 meters in length and 1300 metric tons. There were certain limitations in the profile also, because of tunnels and low overpasses in Eastern Europe that were unknown in the West. In addition, the ramps and facilities at railheads in Eastern Europe, particularly Hungary and Croatia, had unknown capacities and were in various states of disrepair. Because U.S. commanders were unable to conduct reconnaissance early in the planning process, these problems remained essentially unsolved until the first units rolled into the ISB and TAA in early December.

b. Air

When the deployment lagged in mid-December, LTG Abrams asked EUCOM if there was any way to surge airlift in order to make up for the rail backlog. Although the answer was yes, LTG Abrams was told that it would have to be done with C-130s, which were the only aircraft that was available to EUCOM through USAFE.

EUCOM, however, also told the USAREUR Commander that it would coordinate with USTRANSCOM to see if it could get support from strategic assets also. Early on, Ramstein Air Base's 86th Airlift Wing was flying the bulk of the missions, with the support of twelve C-130s from the 314th Airlift Wing from Little Rock, Arkansas (Arana-Barradas, 1995).

The major nemesis to deploying troops and cargo by air was the weather. The weather in Bosnia and Hungary during early December was atrocious. Snow, freezing rain and fog caused flights to be cancelled or to return to their origin when conditions did not permit a landing in Taszar, Hungary or Tuzla, Bosnia. Only half of the wing's twelve daily flights on 12-14 December 1995 were able to land in Tuzla, the others had to return to Ramstein. In addition, all flights into Bosnia on 15 December were cancelled (Arana-Barradas, 1995). When the use of strategic airlift was initiated in late December, the C-17 aircraft involved in the mission could not use Taszar Airfield because there was no capability there to support an instrument landing. Once the Air Force installed that capability at Taszar, there was a lag of five days before the C-17 could use the field. This was because the Federal Aviation Administration officials sent to certify the instrumentation could not land at Taszar because of fog (Bryant Interview, 1996).

The weather effects were also evident at Rhein-Main Air Base. Critical personnel from the 3rd COSCOM Headquarters and the 27th Transportation Battalion had been ready to load onto railcars on 14 December when they were told that their train would not be departing because of the backlog of trains in Hungary. Because the troops were vital to the establishment of the ISB, they were loaded into military vehicles and

taken to Rhein-Main for a possible flight to Taszar. Weather delays hit and the earliest that the troops were able to depart was 17 December. The C-141 carrying the soldiers departed enroute to Taszar, but because of weather was diverted to Budapest. After staying in Budapest for several hours, the aircraft returned to Rhein-Main to await another window to fly to Hungary (Bongioanni, 1995).

Another problem with using aircraft during the deployment was that tactical units were generally unfamiliar with how to load military aircraft. This fact did not surprise anyone, however, since very few V Corps units had ever been deployed using aircraft.

c. Surface

Although military convoys from Germany to Hungary for the purposes of deployment were generally eliminated as a course of action early in the planning process, no one anticipated the huge backlogs of equipment during the initial days of the deployment. Because of this, deployment by convoy was reconsidered as a means to get units essential to ISB operations, but pushed back in the flow in favor of combat units, into the ISB. This held particularly true for transportation units because they were supposedly the "best" at convoy operations. However, even though they were experts at military convoys, these transporters did encounter some problems during their 1,000 kilometer, three-day drive to Hungary.

As with air, the biggest threat to the convoy was the weather. Freezing rain during the day meant limited visibility and translated into icy roads as the end of the day neared. Fog and snow also hindered visibility and forced convoys to stop or significantly reduce their speed. All of these things made the convoy a treacherous and

stressful trip, even for the most veteran drivers. Military police patrolling the routes determined daily "road conditions" and if the roads were Red or Black, convoys could not move military assets into the AOR.

Soldier support and equipment maintenance support was extremely difficult during the movement, especially considering the distance and conditions. Units were required to support the convoys internally until two convoy support centers were established to assist deployment and resupply convoys. The two CSCs undoubtedly enhanced safety by allowing the vehicle operators breaks in their driving, as well as a spot to do maintenance and vehicle repair.

2. Transit Clearances

From the U.S. perspective, Operation Joint Endeavor involved a significant level of coordination with other sovereign nations in order to deploy our substantial military forces and equipment. This included negotiations with at least five non-NATO countries, including Austria, the Czech Republic, Hungary, Slovakia and Switzerland, for requirements such as transit clearances, basing rights, real estate agreements, logistical support arrangements and SOFAs. These negotiations were necessary to obtain permission to move by rail and highway through these countries, to establish convoy support centers on their soil, to support soldiers on trains during halts, and also determine reporting requirements for cargo carried by commercial carriers.

Normally, the State Department, NATO or EUCOM coordinates for these types of agreements. In this case, both EUCOM and USAREUR assumed that NATO would be handling transit rights agreements. However, during OJE, a lack of clarity regarding what actions would be accomplished by which headquarters and the compressed time

frames resulting from delays in political decision-making forced USAREUR to become involved in direct international negotiations (V Corps AAR, 1997). This proved to be especially difficult since some of the nations in the region would not authorize the necessary waivers for movement until the UN acted. Since no one had completed negotiations regarding transit clearances, USAREUR, acting on General Crouch's guidance and starting on 4 December 1995, contacted the required U.S. embassies. USAREUR managed to negotiate interim bilateral transit agreements, which came into force on 7 December, with most completed by 9 December 1995. In most cases, agreements were established prior to the deployment; however, one notable exception was that of Austria, which did not authorize rail movement until about 13 December 1995 (USAREUR AAR Volume II, 1997, p. 157).

Other areas of concern arose during the deployment as well. One of these was vehicle tie down procedures during the deployment and was highlighted when the first trains of U.S. equipment crossed into the Czech Republic. It was discovered that tie down procedures are different in Eastern Europe. In Germany, for wheeled vehicles, normally only chock blocks are used to secure the vehicle. When the trains moved into the Czech Republic and loads began to shift, Czech railroad officials refused to take responsibility for the train until the cargo was secured to their standard.

In order to combat this problem of conflicting tie down standards, the 1st TMCA determined which country along the route had the most stringent vehicle tie down requirements, and the USAREUR Commander decided that those were the standards our deploying forces would follow. Essentially, this meant that everything would be tied down with chains or wire rope and also secured with chock blocks. While this did not

increase in vehicle security, the requirement added significant time to rail loading operations.

Another problem encountered was cost. In Germany, train costs are set by a military tariff. However, no tariff existed in the Czech Republic, Austria or Hungary. Because of the haste at which the transit rights negotiations occurred, inexperience on the part of U.S. commanders and ignorance of transportation capabilities and methods in various countries, the U.S. government paid some excessive costs for the deployment. One of the more notable examples of this is the $200 per hour charged by the Czech Republic for train guards (V Corps AAR, 1997).

Finally, problems occurred in the first couple of days with commercial carriers carrying U.S. cargo to Hungary. None of the governments of the countries being transited could decide on exactly what kind of documentation was needed. One procedure was established at the beginning of the deployment and then after two weeks, a special routing for commercial trucks was established. After that, all commercial trucks had to clear everything they were carrying upon entering each nation. This then had to be done through the embassy, which proved difficult because communications were scarce (Schneider Interview, 1996). This problem was eventually solved, but took almost a month before a consistent agreement was in place across all countries transited.

3. Intransit Visibility

Based on lessons learned from the deployment to Operation Desert Storm, when thousands of containers arrived in Saudi Arabia without proper documentation or tracking, the 21st TAACOM intended on using radio frequency (RF) tags, detection devices and computer systems to track the movement of items through the system (CALL

OJE Initial Impressions, 1996, p. 163). However, during the initial deployment, two main problems hindered intransit visibility and therefore prevented achievement of the desired visibility in transit.

The first of the problems was equipment related. First, only one station was set up to "load" information onto the devices with the data necessary to track containers and supplies. This would prove inadequate to handle the sheer volume the system encountered. Second, hardware items known as interrogators, were not available at all major intersections along the LOC, making it difficult to track even the containers that had RF tags. Finally, the automated manifest system (AMS) used to improve accuracy did not arrive in theater until late in the process. Therefore, containers received prior to the systems' arrival were not processed (Fontaine, 1997).

The second issue facing ITV was lack of use for the RF Tag. Approximately 40% of the containers that deployed to Bosnia did not have RF tags (Schwind, 1998). Although this is a huge shortfall, it was definitely better than the Desert Shield deployment. However, it created a relatively large number of unidentified cargo containers in the theater. Often, this delayed the delivery of critical parts and eroded readiness in Task Force Eagle. This problem was never solved during the deployment phase of the operation.

However, USAREUR saw an opportunity to significantly improve in this area and saw the 1st Armored Division redeployment as a perfect opportunity to test their improvements. So in conjunction with the Army's Logistics Integration Agency (LIA), USAREUR worked toward a goal of 100% visibility of every container and air pallet shipped out of Bosnia. In September 1996, a small team of soldiers under the leadership

of 200th TAMMC, set out to tag approximately 2,000 containers that would be involved in the redeployment. Tags were "burned" with unit and content information and placed on the containers. The group set up at least 20 RF interrogators, which once the OJE redeployment began, would track these redeploying containers. The AMS was installed in key command and control locations, enabling real-time tracking of the containers. This, coupled with the use of the same technology during the deployment of the 1st Infantry Division in December 1996, proved that this technology could accomplish what it intended to do (Manzagol, 1997).

Another area of difficulty with intransit visibility was in the communications arena. On long convoys, it was impossible for a headquarters element to communicate with the convoy commander in the convoy. If the convoy encountered problems, they were unable to relay information and requests for assistance back to their supporting command. During Operation Joint Endeavor, particularly on the 181st Transportation Battalion's self-deployment convoy, some type of devices to communicate with the rear would have been extremely useful. However, the 181st was not fielded with a system to accomplish that mission until later in the operation, after it had been validated and proven by the 37th TRANSCOM.

The system that was validated and proven by the TRANSCOM was called the Defense Transportation Tracking System (DTRACS or DTTS). This satellite tracking system was initially employed on 470 of the TRANSCOM's vehicles as a test of its feasibility (Manzagol, 1997). The test was resoundingly successful.

The DTRACS consists of a satellite antenna, transponder and keyboard mounted in various locations on the vehicle. Using the satellite tracking, the unit headquarters,

along with movement controllers, could, using an automated map, track the location of a convoy. In addition, drivers were now able to send messages back to the headquarters, updating them on the convoy status. This proved to be very effective and numerous success stories resulted from the experiment, including several timely rescues of drivers involved in accidents, something that was impossible without the DTRACS.

C. INTERMEDIATE STAGING BASE ISSUES

Placing the intermediate staging base in Kaposvar-Taszar, Hungary was one of the success stories of the Operation Joint Endeavor deployment. It provided units with one location to stop and prepare for the next stage of the deployment. In the ISB, units were subjected to the reception, staging and onward movement (RSO) portion of the RSOI process. Integration was the only RSOI task that was not conducted in the ISB. Even though the 29th Support Group performed admirably while conducting RSO operations, the unit still encountered problems while performing this mission. The biggest problem was that formal doctrine for RSOI did not exist at the time of the deployment. Although that doctrine does exist today, much of what was learned during OJE was incorporated into that doctrine.

1. Reception, Staging and Onward Movement

a. Reception

Many challenges faced the 29th Support Group as they arrived in Hungary as the main force deployed to establish and operate the ISB and conduct RSOI operations. The first difficulty the unit faced was as a result of the signing of the GFAP and subsequent requirement to have a substantial combat force on the ground almost immediately. To accomplish this, USAREUR moved combat units forward in the flow and pushed back critical RSOI units. Because of this, the 29th Support Group arrived in

Taszar only three days before the combat forces began arriving. The 29th was required to establish its internal operations while providing external support to deploying units. This was difficult to accomplish, especially with the limited communication equipment available.

In addition to the fact that the unit was given only three days to establish an operation projected to take fourteen days to establish, the 29th SG was required to do this with half the personnel it was supposed to have. Again, the change in priority that pushed combat units earlier in the flow, pushed critical RSOI units back. Therefore, the RSOI force was facing a compressed time line and a shortage of personnel. Also because of the flow changes, it was difficult for the 29th to determine what units were arriving on a daily basis. This made it nearly impossible to determine support requirements until the unit had actually arrived in the ISB. This lack of visibility also extended to the deployment modes as well.

Rail operations proved to be exceptionally difficult in the ISB, due to changing unit priorities, increased flow of combat units and a compressed time line. There were only four small railheads in Kaposvar-Taszar, Hungary and offload at these railheads was very slow. The cold weather, the shortage of personnel, and shortage of material handling equipment led to a backlog of trains waiting to be offloaded.

> We had a traffic jam on the rail, based on offloading capability. When you only have one or two ramps available, you can offload only one train every four to six hours. And you have more trains coming in. Automatically, you create a traffic jam (Schneider Interview, 1996).

The backlog got to be so bad that around 16 December, with ten cargo-laden trains waiting on Hungarian rail lines, that the U.S. ambassador to Hungary gave the military an

ultimatum: unload the trains more quickly or temporarily halt any further trains from leaving Germany (Sammon, 1995). The backlog occurred because movement planners allocated twenty trains per day out of Germany, originally all scheduled to go to the ISB. However, reception capability in the ISB was only six to eight trains per day, and backlogged trains were rerouted to Slavonski Brod and Zupanje, Croatia. That decision, however, only served to extend the backlog into another country and create further problems for units in Croatia.

One final dilemma that the 29th Support Group faced was how to centrally control unit arrival. The problem was that unit equipment and personnel were arriving by rail, convoy, air, commercial bus and commercial truck. With all these different modes delivering people and equipment to Kaposvar and Taszar, a system had to be in place to process and account for arrivals. Initially the coordination between arriving units and the 29th Support Group was limited, especially if units arrived undetected by some means of highway transportation. Normally units arriving by air or rail directly to Taszar were linked up with a representative immediately, but units arriving by highway were harder to track and predict arrival. This lack of coordination caused units to "wander" around the ISB, before finding their ultimate destination. Later, the 29th Support Group would use signs throughout the ISB to direct wayward units to the central processing location.

b. Staging

Although staging sounds very basic and simple to accomplish, it involves much more than just parking a vehicle in a staging area and awaiting movement. This was the phase when the majority of the functions in the ISB took place. Everything from direct support maintenance and supply replenishment to personnel processing and

movement updates occur during this timeframe. Because of the myriad of activities occurring during the staging phase, many challenges were experienced at that time.

The 51st Maintenance Battalion played a major role in the staging process during Operation Joint Endeavor. The Battalion was responsible for the maintenance of all vehicles deploying through the ISB. Vehicle breakdowns were not uncommon, especially considering the weather and heavy usage during the deployment. Non-mission capable vehicles, often arriving on rail cars, were brought to the staging area for the 51st Maintenance Battalion to fix. However, because of the large variety of vehicle types deploying, the battalion did not always have the tools or expertise they needed to fix something. This was especially true of the new PLS and HETs from the 181st Transportation Battalion. In addition, the battalion lacked the facilities to conduct some types of maintenance and since it was the middle of winter in the Balkans, vehicle maintenance was often very difficult. However, due to the professionalism and pride of the maintenance soldiers, the battalion was able to accomplish its support mission and keep vehicles rolling to the TAA.

Another area of difficulty in the staging phase of RSOI was the certification of every soldiers' OCIE. Prior to Operation Joint Endeavor, LTG Abrams, in order to ensure that all soldiers were adequately protected, issued a mandatory list of OCIE items that soldiers had to deploy with. Most of the stocking for these items was accomplished in Germany, however, the supply facilities often did not have an item in stock and therefore the soldier would deploy without it. This meant that the soldier would have to receive the item in Hungary. Because there was no centralized control of the OCIE stocks in Germany, the 29th Support Group could not see where extra stocks

were located in order to resupply the soldier. However, the soldier had to have all of his clothing and equipment in order to deploy and unit commanders could not certify their units for onward movement unless every soldier had the proper equipment and clothing. Therefore, units were forced to cross-level stocks in order to fill shortages.

Cross leveling was a short term fix and once the flow settled, large amounts of stock were deployed in order to support the OCIE verification process and ensure every soldier had their gear.

c. Onward Movement

As previously mentioned, the task of onward movement was assigned to V Corps' only truck transportation battalion, the 181st Transportation Battalion. For onward movement planning, the 29th Support Group, the 27th Transportation Battalion and the 30th MCT supported the battalion. At the beginning of the deployment, the lines between these organizations were not really well defined and the process for requesting any onward movement was non-existent.

There were two main reasons why the process was difficult in the beginning, including a compressed time line and the lack of transportation personnel in the 29th Support Group headquarters. The compressed time line was a result of the GFAP requiring a large combat presence in the area immediately. The force was changed several times, which affected the deployment and onward movement of forces. The lack of transportation personnel in the 29th Support Group headquarters was a result of Army doctrine, which states that the support group would deploy into a mature theater of operations. In this operation, that was not the case, so the 29th Support Group established an onward movement cell in their headquarters. Made up of personnel from the 27th

Transportation Battalion and the 3rd COSCOM, the onward movement cell interfaced with the 30th MCT for convoy requests, the 1st Armored Division for priorities and deployed equipment and personnel lists, the 29th Support Group for status of the RSOI process and USAREUR (Forward) for the call forward. This ad hoc organization proved to be very successful at organizing and coordinating the 25 vehicle convoys that would leave the ISB hourly starting at 0400 and lasting until 1100.

Asset and personnel availability were also always a challenge for the supporting transportation units. Because the units were low ALO, they were not authorized enough drivers to man every truck assigned to the unit. This problem, helped only by the Foreign Service Tour Extensions (FSTE) keeping soldiers scheduled to depart Germany, would plague the unit throughout the mission. Drivers were also being tasked to provide force protection and other duties in the ISB. This just served to exacerbate the problem. In addition, the battalion never really had a chance to establish its operation in Hungary because within six hours of the first convoy's arrival, the 27th Movement Control Battalion was already tasking the units for support.

Because USAREUR forced the 181st to self-deploy, vehicle availability suffered greatly. New vehicles, immature support systems, a shortage of mechanics and the high operations tempo (OPTEMPO) of the deployment caused the unit's already tenuous readiness to be adversely affected. During the deployment, the battalion operated at between 90% and 95% capacity for approximately 60 days on substandard roads in the middle of winter. The vehicles during that time took a beating and the mechanics in the battalion worked miracles to keep the fleet moving. Finally, the

addition of extra vehicles not normally assigned to the battalion diverted mechanics' time away from our task vehicles.

2. Space Allocation

Although Taszar Air Base had a significant unused runway space, that space was quickly claimed by the 29th Support Group in order to conduct its RSOI operations. Runways were blocked and became staging areas, freight forwarding areas and ammunition storage areas. Paved keyholes, where Hungarian MIG fighters once stood, were quickly claimed for maintenance areas and supply and headquarters tents. While this was efficient use of space, it left no room to station the huge number of transportation assets from the 181st and 28th Transportation Battalions that had deployed to Hungary to serve as onward movers for TFE. The 181st Transportation Battalion alone brought 48 PLS tractors and trailers, 48 HET tractors and trailers and 60 M931-5 ton tractors and 81 M967-5,000 gallon tankers, not to mention 24 additional HETs each from the Bravo Companies of the 123rd and 703rd MSBs and 60 M915 tractors and 120 M872-40 foot trailers from the 70th Transportation Company, 28th Transportation Battalion (Herson, 1996).

So began the search for real estate in an area that has traditionally faced relatively light commercial traffic and where, unlike Germany, the number of large paved areas is surprisingly small. Initially, the vehicles were parked alongside the roads leading to the tarmac at Taszar Airfield. In this location, they were readily accessible to load staged unit vehicles and prepare for departure. However, with the mass amounts of personnel and equipment arriving in Taszar around the clock, this solution soon proved inadequate. The airfield was becoming too congested. While the 377th Transportation Company

HETs were able to remain at the far end of the airfield, the other companies were forced to seek alternate arrangements.

Finding locations for the other companies proved challenging, but with the assistance of contractors from USAREUR (Forward), the battalion headquarters and the 70th Transportation Company were housed in a municipal bus terminal down the street from Kaposvar South. The 515th Transportation Company and their fuel tankers plus part of the 51st Transportation Company were staged in an old sugar refinery near the center of Kaposvar. A trailer transfer point (TTP) for the 70th Transportation Company's 120 trailers was established at a farm implement warehouse with a large gravel parking lot midway between Taszar and Kaposvar. While these locations were not ideal because the battalion's assets were significantly spread out, they were adequate until the battalion moved south after the deployment to support the sustainment of TFE.

Later in the deployment, once a more steady state transportation system was reached, the transportation assets from the 28th Transportation Battalion were moved to the smaller airfield in Kaposjulak, about five miles west of Kaposvar.

3. Movement Control

In the RSOI operation, onward movement is closely linked to movement control. During OJE, the MCT was the unit that tasked the transportation companies for trucks, coordinated host nation support if necessary, coordinated and issued march credits and convoy routes, and tracked the movement of all transportation assets throughout the theater. In Operation Joint Endeavor, this mission proved to be especially difficult because of all the moving pieces involved in the deployment.

The 27th Transportation Battalion was one of the first units to deploy from Wiesbaden, departing on 9 December 1995. Immediately upon arrival in Kaposvar, Hungary the Battalion established operations and began to track the deployment from Germany. This however was a daunting task, especially since the deployment time line had been compressed and units were flowing in from 30 different railheads in Germany, not to mention two Air Bases and numerous other points of departure. Tracking the deployment presented the battalion with many challenges.

The first and most important challenge the battalion faced was poor communications infrastructure in Hungary. This made it difficult to communicate with the 1st TMCA in Germany and to track movements into the theater. It was very difficult to pass information from one point to another. However, communications became easier once signal units began arriving and emplacing Defense Switched Network (DSN) capability as well as mobile subscriber equipment (MSE) phones. In addition, a computer server was established and soon the battalion was able to communicate via email. This turned out to be a significant enhancement in communications.

Second, the battalion faced a personnel shortage. It was not manned at a level where it was able to provide the kind of information that commanders wanted. Information such as departure and estimated arrival times was difficult to predict because of the uncertainty in the deployment system. Because of this uncertainty, too many personnel in the headquarters were involved in searching for specific data points and not tracking the overall big picture. This problem was solved with augmentation from two reserve component MCTs from Italy and also by stripping transportation officers and soldiers from other units and assigning them to the 27th Transportation Battalion.

A third difficulty was planning and coordinating for onward movement of deploying forces. Essentially, there was no transportation link between the deploying units, USAREUR, the 29th Support Group and the 27th Transportation Battalion. This caused units to be scheduled for onward movement in a haphazard way. Therefore, an onward movement cell was created under the control of 27th Transportation Battalion, collocated with the 29th Support Group whose mission was to schedule onward movement convoys. The group conducted daily meetings with USAREUR (Forward) and the 1st Armored Division to determine priorities and where units stood in the RSOI process conducted by the 29th Support Group. This cell proved to be very effective and freed personnel from the 27th to do movement tracking while the cell concentrated on onward movement.

Another drain on the battalion's personnel was the requirement for movement regulating teams (MRT) to be present for every mode departure and arrival into Hungary. The battalion simply was not manned to accomplish this mission. In addition, the battalion was required to establish an MRT at Barcs, Hungary, which was the border crossing location between Hungary and Croatia and one in Slavonski Brod and Zupanje, Croatia to support movement control in those areas. Eventually, the battalion was deployed to fourteen locations in Hungary, Croatia, and Bosnia-Herzegovina and worked at the strategic, operational and tactical levels. This stretched the battalion extremely thin, however, it was the only way for the battalion to maintain positive control and intransit visibility over all rail, barge, air, bus and military and commercial truck movements throughout Hungary, Croatia, and Bosnia-Herzegovina.

Once the deployment was complete, the 27th Transportation Battalion's mission became more stable and the major difficulties it dealt with were updating TC-ACCIS so that every deployed unit was in the system and could be redeployed using JOPES, something that was not done successfully in the deployment.

D. TACTICAL ASSEMBLY AREA/BOSNIA ISSUES

Once a unit had been validated by the RSOI cycle in the ISB and called forward for movement to the TAA, the heavy tracked vehicles were loaded onto HETs or M872 trailers for the long convoy to the TAA. The reason USAREUR did this was that tracked vehicles were not allowed to move through Croatia. So these vehicles were loaded on dedicated onward movement assets and, along with the unit's administrative vehicles, embarked on the twelve-hour convoy from Taszar to Zupanje, Croatia. The convoys encountered narrow, substandard roads with soft shoulders and impatient civilian drivers weaving in and out of the convoys. Several accidents occurred, but no significant damage or loss of life resulted. The transportation units supporting the onward movement of TFE dealt with this ordeal on a daily basis for sixty days and were extremely happy when the deployment was over and the sustainment phase of the operation began.

1. Container Operations

In recent years, the Army has focused on the use of containers to deploy supplies and equipment during a contingency operation. USAREUR is no different and during Operation Joint Endeavor, its units deployed a mountain of containers. This caused severe problems for the soldiers of the 29th Support Group in Hungary for two reasons: (1) no area was set aside for a container yard and (2) no container handling equipment was available in theater. The 29th SG in the ISB partially solved their problem by leaving

containers loaded on trailers and forwarding them directly to the TAA. This, in turn, created a huge challenge for the units in the TAA because again, no space had been identified for a container yard and no container handling equipment was available in Croatia.

Because the bridge across the Sava was not completed until 31 December 1995, containers began to stack up at TAA Harmon as a continuous flow of units and their equipment arrived in Zupanje, site of the bridge crossing. On 26 December, the 51st Transportation Company was attached to the 16th Corps Support Group and sent to TAA Harmon. The company was staged in an abandoned sugar beet factory with a small paved area, which barely accommodated the company's vehicles and a temporary container storage site. However, this location was accepted by the chain of command, especially since, such as Hungary, there were very few large, paved areas and also because of the fear of encountering land mines anywhere that was not paved.

Somehow, despite not being manned for the job, the 51st Transportation Company was tasked with running the container yard, something that normally would be done by a cargo handling company, which did not exist in USAREUR. As much as the company tried, it could not eliminate the backup of containers. The shortage of MHE exacerbated the problem and often forced arriving trucks to leave their trailers in the TAA because it would take so long to discharge them. This further compounded the problem and increased congestion in the TAA. Soon, the temporary container yard became almost unusable because of an inability to readily move or stack containers (Herson, 1997). Finally, 21st TAACOM (Forward) and USAREUR (Forward) requested that a RTCH be shipped from CEGE stocks to assist with this problem. However, when the RTCH

arrived, it had been disassembled for rail movement and required assembly in order to be used. Despite having no experience with this type of equipment the company mechanics managed to assemble the RTCH. Then, another fortunate occurrence, the company had someone who was actually licensed to operate a RTCH. So with RTCH and operator, the company began reorganizing the container yard and reducing the backlog of containers and trailers at the TAA.

This, however, was only a temporary solution and the problem would continue at a much smaller level until the bridge was emplaced and the containers could be moved to their ultimate location. Another solution that finally helped alleviate the problem was the arrival of a cargo handling platoon from the 403rd Transportation Company from Fort Bragg, North Carolina.

2. Base Camp Construction

As mentioned earlier, on 31 December 1995, the U.S. Army engineers finally succeeded in establishing a pontoon bridge across the Sava River. This was a major accomplishment considering the conditions that the soldiers in Zupanje had faced in the previous week, most notably the flood that destroyed much of the bridge preparations already completed. However, once the bridge was completed and Task Force Eagle began crossing that bridge, they would encounter several difficulties that were not considered in the original plan.

The concept for operating in Bosnia had originally been to establish eight base camps, each of about 3000 soldiers, for force protection purposes. In addition, some areas for base camps were initially identified. However, when Task Force Eagle units were finally able to get into those sites, they discovered that a combination of the

compartmentalization of the terrain, the bad roads and weather, soil too soft or unstable to support establishing a base camp and its heavy vehicles and land mines meant that TFE had to disperse the force much more than originally planned (V Corps AAR, 1997).

Because of this, the requirement grew to 23 base camps and the need arose to get those camps built quickly. Because the LOGCAP contractor, Brown and Root Services was unable to take on this additional workload, the military had to rely on some of its own engineers to assist. Navy Seabees and Air Force Rapid Engineer Deployable, Heavy Operational Repair Squadron, Engineer (RED HORSE) were deployed to contribute to the building of the TFE base camp infrastructure. This created other problems.

The first problem was that there was only one bridge across the Sava River, and it was being used to carry not only the combat vehicles into Bosnia, but also the tentage and construction material for the engineers to construct base camps. The bridge was also the only means to deliver necessary supplies to the soldiers who had already crossed the bridge and were living in very austere conditions in Bosnia. Every load that went across the bridge had to be prioritized and structured. Task Force Eagle could not afford for the bridge to be run inefficiently. Fortunately, another float bridge was completed on 17 January 1996, which lessened the burden of moving equipment and construction material into Bosnia.

The other problem created by the surge in the number of base camps was a logistical one and dealt with the increase in the amount of material needed to complete the construction. Several measures, including local purchase and establishing a facility in Germany to expedite procurement and shipping of materials, lessened the burden. However, despite the ability to locally purchase, ultimately 90% of the material for base

camp construction came from Central Region. Ultimately, the base camps were completed on 18 March 1996, using over four million board feet of lumber, 75,000 sheets of plywood and 350,000 cubic meters of gravel in the process (USAREUR AAR Volume I, 1997, p. 130).

E. SUMMARY

The units involved in the deployment to Bosnia in support of Operation Joint Endeavor encountered many challenges. Those units met the challenges head on and developed innovative solutions to alleviate the problems. In addition, the units learned several lessons from deployment operations, which were recorded and later used to improve the way USAREUR deploys. Chapter IV will discuss those lessons and also the improvements made as a result of them.

IV. LESSONS, RECOMMENDATIONS, IMPACT AND CONCLUSION

Based on the issues discussed in Chapter III, this chapter outlines the lessons learned from the deployment to Bosnia in support of Operation Joint Endeavor. The chapter furthermore offers recommendations for improving future deployment operations. Finally, the chapter discusses some of the improvements that have already occurred and how those improvements have affected doctrine and subsequent operations.

A. TEN IMPORTANT LESSONS LEARNED

Following are the ten major lessons learned which were from the successes and failures of operations during the OJE deployment.

1. A Robust Transportation Infrastructure is Required for Successful Deployment and Onward Movement.

It became clear early on that transportation was the long pole in the logistician's tent during OJE. The critical shortage of transportation companies and movement control teams caused by the drawdown in Germany strained the limited assets available in theater. The assignment of additional "transportation" missions, outside the scope of truck operations, to truck units further strained theater resources. Issuing additional equipment to units already struggling to crew and maintain their own MTOE equipment further compounded the problem. These conditions placed the transportation community in a situation where failure was a likely option and would have been disastrous for the mission.

Recommendation: There are two options available to ensure that a shortage in transportation assets is not experienced in future deployments.

One option is for the unit planning transportation support, in this case USAREUR, to ensure that sufficient transportation resources, both truck and movement control are available. If sufficient assets do not exist in the theater, then planners must request additional assets from either CONUS based active or reserve component units. Also, planners must ensure those forces are moved early in the deployment in order to leverage them against the shortfall. If the additional units arrive too late, the damage to the operation may already have been done.

The second solution to this problem is to work through V Corps and USAREUR Force Management channels in an attempt to activate additional transportation companies in Germany. V Corps requires additional HET companies to ensure there is enough lift to move the divisions' M1A1 Abrams tanks and the M2A2 Bradley Fighting Vehicles. Issuing additional equipment to already existing units is not the solution. V Corps also needs a medium truck company with flatbed capability in order to transport containers and light wheeled and tracked vehicles. The Force Management channel would also be employed in order to change the ALOs of already existing transportation companies and also the 1st TMCA. All truck companies in USAREUR should be manned at ALO-1 in order to crew and maintain all equipment assigned to the unit. All movement control units should be manned at a minimum of ALO-2, but preferably ALO-1.

Finally, planners should attempt to task units only to perform their assigned mission and not expand their mission just because they are "transportation" units.

These units' function during a deployment is too critical to be manned and equipped at any level less than 100%. Making these recommended changes will ensure success in future missions.

2. Use of TC-ACCIS and JOPES for TPFDD development is critical to deployment flow planning.

USAREUR proved during the planning phase of Operation Joint Endeavor that not using TC-ACCIS and JOPES was a critical mistake. By avoiding TC-ACCIS because it was time consuming and not employing JOPES because leaders thought of OJE as an operational deployment, USAREUR severely limited their ability to plan and execute this deployment. Planners were unable to develop and validate a TPFDD and therefore were unable to properly sequence the deployment. The lack of a TPFDD caused problems from the very first day of the deployment. In addition, the organizations that controlled the strategic assets that eventually "saved" the deployment, such as USTRANSCOM, had no visibility over the deployment because of USAREUR's failure to use TC-ACCIS and JOPES.

Recommendation: Although this recommendation seems fairly obvious, it is of the utmost importance to the success of future operations. USAREUR must use TC-ACCIS and JOPES for every deployment they conduct.

In addition, USAREUR must establish a comprehensive policy for the use of TC-ACCIS and JOPES so that there is no confusion in theater where units go to do TC-ACCIS input and how the JOPES process works. Part of this policy must also include how changes are made once a TPFDD has been developed. In addition, the policy must be rigorously enforced and procedures followed to the letter.

Finally, USAREUR must ensure that TC-ACCIS and JOPES operators are properly trained to input and manipulate data.

These changes will ensure a properly developed TPFDD and smooth deployment.

3. Integrated planning may result in more communication amongst headquarters, especially in a compressed time line.

As mentioned in Chapter III, much of the planning conducted for Operation Joint Endeavor was parallel planning. Headquarters at the V Corps, USAREUR, EUCOM, ARRC, AFSOUTH and SHAPE levels were all planning the same mission, however, information flow between and among those headquarters was slow or nonexistent. It seems that there was very little cooperation between headquarters in planning for this mission. The only integrated planning that was conducted was between V Corps and the 21st TAACOM, but even that did not occur until later in the planning stage of the operation.

Recommendation: For future operations of this magnitude, the various headquarters should attempt to integrate planning as much as possible. This would improve the flow of information and also speed up the process. In the case of OJE, V Corps, 21st TAACOM and USAREUR should have integrated their planning efforts more and also established liaisons at the EUCOM, ARRC and SHAPE headquarters. This would have enabled the higher headquarters to flow information through the liaison to the lower-level headquarters and vice versa. In planning for any operation, the more information that flows both up and down the chain of command, the better the operation plan is. In OJE there was very little information flow and the deployment plan disintegrated before it even started.

Headquarters should also use integrated planning to distribute tasks over a larger number of people to lighten individual workloads. Since there are so many things to do prior to a deployment, lessening the burden on staff officers would pay great dividends in the long run.

4. ASGs and BSBs did an outstanding job as deployment "launching platforms."

The ASGs and BSBs were one of the bright spots during the deployment. Although this was the first time that they were tasked to support a deployment of this kind as "launching platforms," they performed admirably. The ASGs and BSBs were able to take on some of the deployment responsibilities from the deploying units, thus freeing those units to worry about the mission. This is extremely helpful in an era with such complex missions as peacekeeping, peace making and peace enforcement. Any amount of time that the unit can gain to focus on these missions will pay great dividends in the end. However, even though the use of the ASGs and BSBs was successful, it was not without problems. Since there was no doctrine on how these units were supposed to operate, there were several different standards for their operations. In addition, the units were not properly manned or funded to conduct these operations.

Recommendation: In order for the ASGs and BSBs to be successful in the future, they must be properly funded and manned with additional personnel. Since the ASGs are under USAREUR command and control, USAREUR should look at the best way for this to occur. USAREUR Force Management should pursue an MTOE change for the ASGs in order to provide additional personnel for this mission. USAREUR Resource Management should provide additional funding for the ASGs to conduct the "launching platform" mission.

In addition, doctrine for the ASGs and BSBs must be developed and validated. The easiest way to validate this doctrine would be to hold deployment exercises and move units through an ASG-established site to train on the doctrinal tasks. This would ensure proper execution by the ASGs and BSBs for future deployments.

5. The ISB concept coupled with the RSOI concept is a formula for success.

These two concepts were also bright spots during the deployment to OJE. The decision to establish the ISB in the vicinity of Kaposvar-Taszar, Hungary was based on sound transportation principles. The ISB was USAREUR's forward platform to conduct RSOI operations on deploying Task Force Eagle units and ensure that the soldiers and equipment from those units were prepared to enter the austere environment in Bosnia. The units conducting RSOI in the ISB successfully accomplished their deployment mission. After the deployment and RSOI, the ISB was the home of the NSE, supporting all U.S. troops in the area and acting as the final staging base during the redeployment. Again, however, there were problems in the ISB and with the RSOI process, most springing from the fact that there was no doctrine to support either of the concepts.

Recommendation: Since joint and Army doctrine has already been established for conducting RSOI operations, USAREUR must incorporate this doctrine into its Deployment Regulation. This will ensure that USAREUR units conducting RSOI operations in the future will know exactly what the responsibilities are and who has those responsibilities. In addition, USAREUR should evaluate the ISB concept as part of their future operations and develop an SOP or regulation listing roles, structure, relationships and capabilities of the ISB.

The ISB and RSOI concepts are not just meant for USAREUR units. Any deploying organization should use either or both of these concepts. If available, deploying units should plan to use an ISB to conduct RSOI operations. Doing so will help the deploying unit certify that it is in fact ready to enter the deployment area.

6. Intransit visibility and the automation that supports ITV must be used throughout the entire deployment.

Although the 21st TAACOM had been using automatic identification technology (AIT) for several years, it was not prevalent during the deployment under Operation Joint Endeavor. Upwards of 60% of the containers deployed to Bosnia were not marked or tracked through the system. However, because of the efforts of the Logistics Integration Agency, the redeployment and subsequent deployments were fully supported by RF tags and AMS. This trend must continue to ensure that USAREUR units maintain ITV over their deploying equipment and containers.

Another item not used during the deployment, but used for the redeployment and subsequent deployments, was the DTRACS or DTTS. This system enables tracking and communication of convoy vehicles when those vehicles are away from home station. It is useful for report convoy status or requesting assistance in case of emergency.

Recommendation: Continue to use RF tags and DTRACS. These technologies are vital to the visibility of both equipment and supplies during a deployment. USAREUR must continue to fund the purchase and installation of DTRACS in trucks throughout Germany. Transportation and military police companies should have priority for receiving DTRACs, followed by command and control vehicles in company headquarters. This communications device could ultimately save lives during combat operations.

In addition, USAREUR must continue to fund the purchase and use of RF tags and interrogators for intransit visibility. USAREUR must proliferate the use of this technology to ensure successful tracking of deploying units' cargo.

7. The deployment must be organized to move logistics units early in the flow.

The movement of logistics units early in the flow is a lesson that the Army keeps relearning. In Somalia, the TPFDD was developed to deploy logistics forces into the theater in order to support the deploying combat forces. However, the TPFDD was changed and the combat forces deployed first and had no structure to support them. The same was true in the OJE deployment. USAREUR intended on flowing various force packages, such the RSOI package and the enabling force package. These were logistics type units designed to deploy early in order to establish the infrastructure necessary to support the deploying combat force. Since that did not happen during OJE, deploying combat forces were greeted with only half of what they were supposed to have seen. Because of that, the combat forces were ultimately held up in their deployment to wait for much needed logistics units to process them.

Recommendation: Units deploying in the future must build the TPFDD to reflect early deployment of logistics forces. Without this, the Army is doomed to repeat the failures of Somalia and Bosnia. Deploying units should designate some logistics forces as "early deployers" so that those units always know that they will be at the tip of the spear during a deployment.

In addition, those units designated as "early deployers" should train as such. They should also receive their full complement of personnel and equipment in order to be ready at all times to quickly deploy, if necessary.

In USAREUR, units like the 29th Support Group and subordinate units from the 3rd COSCOM could be designated as "early deployers" because of their capability to perform the RSOI mission. This would ensure proper support when combat units arrive.

8. The C-17 was extremely valuable to the success of the deployment.

The Army and to a certain extent the Air Force were pleasantly surprised about the performance of the C-17 Globemaster III during the deployment to Operation Joint Endeavor. During the 2-week time frame from the end of December 1995 to the middle of January 1996, the C-17 saved the deployment time line for USAREUR. USAREUR had gotten behind in the deployment and needed assistance. However, this assistance, especially in the form of the C-17 almost never materialized.

This was because the Army did not use the strategic planning tool, JOPES, to develop a TPFDD. Therefore, USTRANSCOM and its subordinate, AMC, never had visibility over the deployment, or the need for strategic airlift. In addition, USTRANSCOM was not involved in the planning process.

Recommendation: As previously mentioned, USAREUR and any other deploying unit must use JOPES to plan their deployment. This will eliminate many of the problems that USAREUR experienced during OJE.

In addition, USAREUR and other deploying units must involve the USTRANSCOM Headquarters in the planning for the mission, whether they intend on using USTRANSCOM assets or not. This headquarters is a great resource for general transportation planning information and their subordinate units, AMC in particular, can be extremely useful in assisting the unit headquarters to successfully accomplish their deployment mission.

Finally, by involving USTRANSCOM in the planning process the deploying unit alleviates any possible opposition resulting from trying to request USTRANSCOM support midway through a deployment.

9. When dealing with deployment, expect the unexpected and have a backup plan.

The deployment to Operation Joint Endeavor was like a case study in Murphy's Law. USAREUR encountered anything and everything that could go wrong in this mission. If USAREUR had developed a comprehensive plan, including backup transportation modes, Murphy's Law would not have affected the deployment so much.

During the deployment, USAREUR encountered adverse weather, which affected rail, convoy and air movements. The French rail strike, the anti-nuclear protests, a shortage of rail cars, the holiday season, and compressed time lines all hindered the rail movement. A shortage of military trucks and uncertainty over commercial truck availability and use impeded the surface movement. A shortage of air and failure to include USTRANSCOM in deployment planning affected air movement. The recommended solution to that problem follows.

Recommendation: As the lesson learned says, have a backup plan. This does not mean a general idea of what will happen if the original plan fails, but a comprehensive plan for each mode and node. A plan such as this could even be built into a deployment regulation or SOP, much like the "early deployer" package discussed earlier.

As a backup to shortage of railcars and trucks, perhaps USAREUR could establish a "Civil Reserve Air Fleet (CRAF)-like" relationship with the DB and other European railroads as well as the commercial trucking industry to ensure the supply of sufficient rail cars and commercial trucks during a contingency mission. These suggestions would result in the Army having the required assets when necessary.

10. Deployment and sustainment operations rely on containers; therefore a standard container management system/unit must be established.

The deployments to Saudi Arabia for Operation Desert Storm and to Bosnia for Operation Joint Endeavor have shown that the container will be a major part of the Army's deployment landscape. Units use containers to deploy almost anything and therefore, containers are of vital importance to the deployment process. However, in USAREUR, there is no standard container management SOP or a unit equipped to handle containers and manage a container yard. Without this SOP and this unit, USAREUR will continue to experience the container debacle that it experienced in Croatia during OJE.

Since a previous lesson learned already showed that AIT is required to track the deployment of containers, this lesson will deal specifically with ways to make container operations easier in USAREUR.

Recommendation: First, USAREUR needs an SOP that deals with container operations during a deployment. This SOP should be incorporated into their Deployment Regulation and should assign responsibilities to units for various container functions. However, before the SOP can assign responsibilities, USAREUR Force Management must request activation of a cargo transfer company in USAREUR. The company could be assigned to the 37th Transportation Command for command and control. A cargo transfer company contains the necessary MHE, such as RTCHs and forklifts to handle any container. In addition, part of this company's doctrinal mission is to operate container yards. They also have the capability to operate on airfields and in seaports, handling cargo in both locations. A cargo transfer company would add significant capability and flexibility to USAREUR deployment operations and increase USAREUR's ability to deploy.

B. IMPACT ON SUBSEQUENT OPERATIONS

The deployment to Bosnia and subsequent lessons learned have already had a significant impact on deployment operations and doctrine. Much of the impact has been felt at the strategic level, but can also be seen at the operational level as well. OJE has impacted the way deployment operations were conducted for the deployment to Operation Joint Guardian in Kosovo as well as other USAREUR deployments to support training and contingency missions. OJE has affected our NATO, joint and Army doctrine as well as USAREUR and subordinate unit regulations and policies. The following sections will cover a few of the impacts of Operation Joint Endeavor.

1. Impact on Operations

As a result of lessons learned from Operation Joint Endeavor in Bosnia, then Chairman of the Joint Chiefs of Staff, General John Shalikashvili, created the Deployment Process Special Action Group (DPSAG) with a twin purpose: provide a joint focus for the services' deployment initiatives and enable the unified commands to influence the deployment improvement process directly (Bronson, 2000). In 1997, this organization became known as the Deployment Division in the Directorate for Logistics (J4) of the Joint Staff. The Deployment Division serves as the single point of contact for all recommendations to improve the joint deployment process.

a. Deployment Process

In late 1997, the Joint Planning and Execution Community determined that the Department of Defense (DOD) needed a deployment process owner. After several recommendations and thorough analysis, the Secretary of Defense named the Commander in Chief United States Joint Forces Command (CINCUSJFCOM) as the deployment process owner on 23 October 1998. CINCUSJFCOM is now responsible for

leading actions to substantially improve the efficiency of deployment-related activities (Bronson, 2000).

In 1999, the Chairman of the Joint Chiefs of Staff requested CINCUSJFCOM to recommend a time standard for TPFDD development and validation. After analyzing data from supported warfighting CINCs, USJFCOM recommended a 72-hour standard for TPFDD development and validation, to include level four detail, which was approved.

b. Deployment Automation

Because of problems encountered in Operation Joint Endeavor with the various automated systems used for planning and tracking the deployment, the Joint Requirements Oversight Committee (JROC) determined that only two automated systems would be used in an effort to meet the 72-hour time standard for TPFDD development and validation. These two systems, the Transportation Coordinator's Automated Information for Movements System II (TC-AIMS II) will be the single-source data system and the Joint Force Requirements Generator II (JFRG II) will be the single-source feeder system for capturing and feeding unit movement requirements into JOPES (Bronson, 2000). These two systems should alleviate the types of problems USAREUR faced during OJE.

On the operational side, USAREUR has continued to increase its use of RF tags and AMS. During the 1st Armored Division redeployment from Bosnia and the 1st Infantry Division deployment to Bosnia, USAREUR units extensively used RF tags, to include the 299th Forward Support Battalion (FSB), which became the model for the fully automated FSB of the future (Manzagol, 1997). RF tags have been used successfully in subsequent rotations of the Stabilization Force (SFOR) in Bosnia and also the

deployment to Kosovo. Because of these successes, USAREUR has mandated the use of these tags for all deployments in the future. In addition, USAREUR has established the Deployment Processing Center as the central point for inputting information, "burning," into the RF tags for deploying units.

c. The Deployment Processing Center (DPC)

While the previous two impacts dealt specifically with deployment from the joint and strategic levels, this impact deals specifically with USAREUR deployments. Based on lessons learned from the deployment to Bosnia in support of Operation Joint Endeavor, USAREUR determined that the theater needed a centralized point for processing units for deployment. This centralized facility, the Deployment Processing Center, was created in 1999 when hostilities again flared in the Balkans, this time in Kosovo. It was used extensively throughout the deployment to Kosovo and in subsequent deployments in support of Partnership for Peace exercises and operations in Turkey, Israel and Saudi Arabia. In addition, use of the DPC has been mandated by the new USAREUR Deployment Regulation, USAREUR Regulation (UR) 525-1. The following is an excerpt from the USAREUR Regulation describing the DPC, its location, mission, and processes.

> It is located at Rhine Ordnance Barracks (ROB), vicinity Kaiserslautern, Germany, and is a force projection platform. It is a turn-key facility used to control, stage, and conduct final processing of units (soldiers and their equipment) for aerial deployment from the nearby Aerial Port of Embarkation (APOE), Ramstein Air Force Base. The DPC has a secondary mission of providing life support for deploying or redeploying Army units transiting Ramstein Air Force Base. Under contingency operations, units will deploy to the DPC after completing all home station pre-deployment activities. The DPC, through an eight-stage process, will validate the unit's readiness for air deployment as well as assist the unit in correcting any shortfalls found. A combined effort between the unit, pusher unit and DPC cadre personnel will be utilized to ensure all deploying soldiers and equipment meet deployment standards.

The DPC is under the command and control of the 21st Theater Support Command, known as the 21st TAACOM during OJE, and is manned by personnel from the 29th Support Group, the same unit that played the critical role in conducting RSOI operations during OJE. The DPC conducts a myriad of activities, including vehicle maintenance, hazardous material (HAZMAT) inspections, pallet building, vehicle weighing and marking, RF tag "burns," and personnel processing. Thus far, the DPC has been very successful in accomplishing its mission and making the deployment process in USAREUR run more smoothly.

2. Impact on Doctrine

Operation Joint Endeavor, like many operations before it, has had a tremendous impact on the doctrine the Army uses to conduct its operations. The operation has affected doctrine not only for the Army, but also for joint operations as well. Probably the biggest effect on doctrine is seen in the RSOI arena, but major changes have also been made in Europe, where deployment regulations have been completely redone as a result of the lessons learned from Operation Joint Endeavor.

a. RSOI Doctrine

During the deployment to Operation Joint Endeavor, no doctrine existed for conducting RSOI operations. This need for doctrine prompted the newly established Deployment Division in the Directorate of Logistics of the Joint Staff to direct publication of Joint Publication (JP) 4-01.8, Joint Tactics Techniques and Procedures (JTTP) for Joint Reception, Staging, Onward Movement, and Integration (JRSOI). This doctrine was completed and published on 13 June 2000.

Prior to the joint community publishing their doctrine on RSOI, the Army completed and published its RSOI doctrine. On 17 March 1999, the Army published Field Manual (FM) 100-17-3 Reception, Staging, Onward Movement and Integration. Much of what was accomplished in OJE by the 29th Support Group has been incorporated into both the joint and Army RSOI doctrine publications. In additional to these two publications, CALL and USAREUR have also published documents dealing with the conduct of RSOI operations.

The RSOI doctrine has been extremely useful to units in USAREUR. The Army used RSOI at Camp Able Sentry in Macedonia during the deployment to Kosovo in 1999 and have also used RSOI in Exercise Victory Strike in Poland in 2000.

b. Deployment Regulations

As a result of OJE, USAREUR has made major revisions to its deployment regulations. As previously mentioned, the new USAREUR deployment regulation, UR 525-1 contains many new provisions for conducting deployments. These include the use of the DPC, use of RF tags, new procedures for requesting transit clearances, the use of TC-ACCIS and JOPES, and the use of ASGs and BSBs as "launching platforms" for rail deployment, for example. While the new UR was in its final draft as of May 2000, once complete, it will make deploying in USAREUR easier.

Because of the major changes in the USAREUR deployment regulation, each of USAREUR's major subordinate commands has been forced to revise their plans as well. V Corps, the major force provider during the deployment, has yet to publish an updated deployment regulation although it has produced a draft deployment SOP and letter of instruction (LOI). The 3rd COSCOM published their comprehensive

Deployment SOP on 1 January 2001. The 21st TSC and the 1st TMCA are both also in the process of updating deployment regulations and SOPs.

c. STANAG 2173

During the deployment, USAREUR units relied on UR 55-8, which outlined procedures for securing military vehicles to German railcars. Because of the difficulties encountered with vehicle tie downs during the deployment, especially when moving through other countries, the USAREUR Regulation was rescinded and replaced with a NATO STANAG.

STANAG 2173 lists methods for securing wheeled and tracked vehicles on European railcars. It also outlines procedures that must be followed depending on what type of train the equipment is going on, including existing traffic and special trains. Finally, the STANAG contains drawings of the proper tie down configurations for the most common military equipment shipped by rail in Europe.

C. SUMMARY

Throughout the early 1990s, conditions existed in the former Yugoslavia, specifically Bosnia and Herzegovina, to warrant intervention by the United Nations. However, the force sent in by the UN, UNPROFOR, failed to successfully accomplish its mandate and problems escalated. In 1995, after a series of NATO bombings, the leaders of Croatia, Bosnia and Serbia met to discuss a possible peace agreement. In December 1995, that agreement was signed in Paris and signaled the beginning of Operation Joint Endeavor.

The deployment phase of Operation Joint Endeavor lasted from 16 December 1995 until 14 February 1996. In that time, USAREUR moved more than 25,000 soldiers, their equipment, their sustainment and their life support more than 1,000 kilometers across former Warsaw Pact countries and into the IFOR sector. The deployment endured an extreme compression of the deployment timeline, a rail strike in France, an anti-nuclear protestor shutting down the German rail system for two days, the worst Balkan winter in 40 years, the holiday season, an unseasonal flood of the Sava River, and a shortage of personnel and equipment to complete the largest deployment of United States military forces since Operation Desert Shield/Desert Storm in 1990.

This deployment would prove to be the largest overland deployment of U.S. military forces ever. Over 11,000 pieces of equipment and 160,000 tons of supplies were moved in a very short time frame. To accomplish this, USAREUR used 409 trains, 7,340 rail cars, 507 commercial buses, 1,770 trucks and 1,358 aircraft sorties (Army News Service, 1996).

This operation was a phenomenal consolidation of transportation assets to accomplish a difficult mission. Although USAREUR encountered problems during the deployment, it used the lessons learned from those difficulties to improve their deployment processes and doctrine and ensure the same problems were not encountered during subsequent deployments. In addition, the joint deployment community has used Operation Joint Endeavor as justification to pursue improvements in the overall deployment process.

D. CONCLUSION

As mentioned, the deployment to Operation Joint Endeavor made history by being the largest overland deployment of forces ever. History, however, is valuable only to the extent that it can be applied in the present to benefit the future. It is hoped, therefore, that military strategists and logisticians will heed the lessons learned from the deployment to Bosnia in support of Operation Joint Endeavor to avoid mistakes and repeat successes. Indeed, the opportunities to apply these lessons are likely to be more common. One need only look to recent events in the Balkans to recognize the significance of the Operation Joint Endeavor experience. It remains a convenient model for conducting effective deployment operations into a remote, austere environment.

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